



**SEA AND INLAND
FISHERIES
REPORT FOR
1974**

AN ROINN TALMHAIOCHTA AGUS IASCAIGH
(Department of Agriculture and Fisheries)

FO-ROINN IASCAIGH
(Fisheries Division)

DUBLIN:

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REPORT

OF THE
MINISTER FOR AGRICULTURE AND FISHERIES
ON THE
SEA AND INLAND FISHERIES
FOR THE YEAR
1974

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PART I.

SEA FISHERIES.

In 1974 the total value of sea-fish landings reached a record figure of £8.7m. exceeding that of 1973 by £1.3m. The biggest increase occurred in the value of landings of pelagic fish. The value of pelagic landings at £4.5m. represented an increase of £1.1m. or 34%. The value of shellfish at £1.8m. was of the same order as that for 1973. The weights and values of annual landings of sea fish (excluding shellfish) since 1965 are set out in the following table:—

TABLE 1

Year	Metric tons	£'000
1974	75,000	6,982
1973	75,200	5,690
1972	75,700	3,900
1971	60,500	2,930
1970	67,300	2,809
1969	54,600	2,105
1968	42,500	1,669
1967	42,400	1,636
1966	31,800	1,454
1965	28,600	1,269

Details of quantities and values of the different varieties of sea fish and shellfish landed in 1973 and 1974 are given in Appendix No. 1. The average price per metric ton obtained for each variety of sea fish (other than shellfish) from 1967 onwards is shown in Appendix No. 2.

The leading fishing ports in 1974 in order of value of fish landed were: Killybegs, Dunmore East, Howth, Galway, Cobh, Castletownbere, Skerries, Dingle, Kilmore Quay and Burtonport. As compared with the corresponding order of importance in 1973 there was no change in the first two places. Howth moved into third place replacing Galway in that position.

DEMERSAL FISHERY.—At 19,537 metric tons the total landings of demersal fish showed a decrease of 835 metric tons or 4%. Increases occurred in landings of whiting which rose by 740 metric tons or 11% and ray/skate which rose by 186 metric tons or 14%. On the other hand a significant decrease occurred in landings of haddock which dropped from 3,872 metric tons in 1973 to 2,411 metric tons in 1974. Decreases were recorded also in the landings of cod and plaice. Whiting was the species caught in greatest quantity and was followed by cod, haddock, ray/skate and plaice in that order.

The total value of the demersal fish catch increased by 6% from £2.4m. in 1973 to £2.5m. in 1974. Cod was first in terms of cash earnings followed by whiting, plaice, ray/skate and haddock. These five varieties contributed 82% of the total value of the demersal fish catch.

Increases in average prices were achieved in most varieties.

The overall average price of all demersal fish landed in 1974 was £129 per metric ton as compared with £117 per metric ton in 1973. This increase was largely due to the higher prices obtained for varieties such as plaice, ray/skate, cod and haddock.

The weights, total value and average value of landings of demersal fish over the past ten years are shown in the following table.

TABLE 2

Year	Quantity	Value	Average Value per metric ton.
	metric tons	£'000	£
1974	19,500	2,527	129
1973	20,400	2,374	117
1972	17,100	1,568	92
1971	20,700	1,590	77
1970	15,300	1,428	93
1969	16,000	1,254	78
1968	15,900	1,112	70
1967	15,900	1,080	68
1966	13,800	996	72
1965	14,300	959	67

PELAGIC FISHERY.—The total pelagic catch of 55,499 metric tons was 673 metric tons or 1% more than the figure for 1973. The total value of the catch was £4.5m. representing an increase of 34% on the 1973 figure of £3.3m.

Herrings.—Landings of herrings amounted to 39,608 metric tons valued at £3.9m. compared with 38,855 metric tons valued at £2.8m. in 1973.

The 1973/74 winter herring fishery off the South coast (Counties Wexford, Waterford and Cork) began in the week ending 10 November 1973 and ended on 26 February 1974. The total landings at the ports of Dunmore East and Cobh amounted to 11,058 metric tons.

This was 8,376 metric tons lower than the figure for the previous year and was in fact the lowest figure since the 1966/67 season. Seventy-three boats, ten less than in the previous season, took part in the fishery. In the interest of conservation of the stocks it had been agreed prior to the opening of the season that no fishing should take place on week-ends. Continuous broken weather throughout January and February also severely hampered fishing operations and because of this the fleet operating from Cobh was able to fish on only 16 nights between Christmas and 28 February.

The landed value of all herrings auctioned at Dunmore East and Cobh amounted to £1.4m. which was a record figure for the fishery. Because of the scarcity of herring, demand was exceptionally high throughout the season.

The South-West coast autumn fishery, exploited mainly by boats fishing into Castletownbere and Dingle, started in August 1974 and continued until November. Decreased landings and reduced prices meant that the season was generally a disappointing one. Total landings were 1,459 metric tons valued at £133,000.

The 1974/75 winter herring fishery off the South coast began in early October and continued until the middle of February. During the season 104 boats took part in the fishery and even though a number of vessels left the fishery early or did not participate throughout the season, the fleet, in terms of horse-power, efficiency and equipment, was the most powerful ever to exploit the stock. The total landings in the period up to 31 December 1974, which were made mainly at Dunmore East and Cobh, amounted to 8,850 metric tons as compared with 5,276 metric tons in the corresponding period of 1973.

The Celtic Sea (Prohibition on Herring Fishing) Bye-Law No. 570, 1974, prohibits fishing for herring by trawl as from 15 June 1974 from 8 a.m. each Saturday to 8 a.m. on the following Monday within the exclusive fishery limits of the State in the Celtic Sea area bounded to the north by 52°30' N latitude and to the west by 09°00' W longitude.

The 1973/74 winter herring fishery off the North-West coast, which commenced in October 1973, continued until mid-February 1974. A total of 12,200 metric tons valued at £1.1m. was landed in this period, mainly at Killybegs. While the total landing figure decreased by approximately 1,600 metric tons from the 1972/73 figure, the value of the catch increased by 79%.

The 1974/75 winter herring season off the North-West coast commenced in October 1974 and continued until early February 1975. During the season nineteen pairs of midwater trawlers and one pair using ring nets took part in the fishery. In addition two new stern trawlers, which in fact used paired midwater trawls, took part. Landings for the period October to 31 December 1974 amounted to 4,929 metric tons compared with 4,914 metric tons in the corresponding period of 1973.

The herring fishery which has developed in recent years on the West coast continued in 1974. The major portion of the landings was made by boats using paired midwater trawls. Approximately 20 pairs from Dublin, Wexford, Waterford, Cork, Kerry, Donegal and Galway took part in the fishery and the biggest landings were made in February and March when boats arrived from other fisheries.

In 1974 the landings of herrings taken by the Irish fleet from the summer herring fishery in the north-western part of the Irish Sea increased considerably and were valued at over £277,000. A total of thirty-three boats took part in the fishery at various times from early July until mid-October and again the area covered was expanded still further to embrace part of the traditional Isle of Man fishery. While landings were made at Clogherhead, Mornington, Skerries and Howth, the catches auctioned at Howth accounted for over 90% of the total catch. The fishery is based on two different races of herring, each having different spawning areas. At present both stocks are rather small and catches are dependent to a large extent on the influx of young fish each summer. In this situation controls are necessary to prevent the over-exploitation of the adult stock and certain conservation measures have been introduced.

Following the pattern established in recent years the proportion of herring frozen (either whole or filleted) continued to increase while the amount exported direct to the Continent in luggers decreased considerably. Because of the keen market demand no difficulty was experienced in the disposal of the catch. Herrings were exported to many countries including the Federal Republic of Germany, Netherlands, France, Norway, United Kingdom, Sweden, Poland and Denmark.

Exports of fresh, chilled or frozen herrings amounted to 17,509 metric tons valued at £3,630,000 as compared with 18,720 metric tons valued at £2,678,000 in 1973. The quantity exported in cured and marinated forms was 11,681 metric tons valued at £1,880,000 as compared with 17,105 metric tons valued at £1,806,000 in 1973.

The following table shows the total quantity and value and average value per metric ton of herrings landed in each of the past ten years.

TABLE 3

Year	Quantity	Value	Average Value per metric ton.
	metric tons	£'000	£
1974	39,600	3,950	100
1973	38,900	2,802	72
1972	47,800	2,116	44
1971	31,300	1,163	37
1970	45,500	1,275	28
1969	34,700	784	23
1968	23,000	497	22
1967	23,700	499	21
1966	14,900	399	27
1965	10,700	252	24

Sprats.—Landings of sprats decreased from 7,642 metric tons in 1973 to 7,314 metric tons in 1974 while the value of the catch increased by 4% from £133,000 in 1973 to £139,000 in 1974.

Mackerel.—Landings of mackerel amounted to 8,525 metric tons valued at £365,000 as compared with 8,314 metric tons valued at £381,000 in 1973. The average price was £43 per metric ton compared with £46 per metric ton in 1973.

The chief landing centres for mackerel were: Castletownbere, Killybegs, Dingle, Burtonport, Valentia, Galway and Howth. Statistics of mackerel landings over the past ten years are given in the following table:—

TABLE 4

Year			Quantity	Value	Average Value per metric ton.
			metric tons	£'000	£
1974	...	...	8,525	365	43
1973	...	...	8,314	381	46
1972	...	...	4,592	147	32
1971	...	...	3,105	118	38
1970	...	...	1,051	40	38
1969	...	...	1,616	45	28
1968	...	...	2,164	49	23
1967	...	...	2,245	51	23
1966	...	...	1,506	46	31
1965	...	...	2,043	46	23

SHELLFISH.—The value of the shellfish catch at £1,754,000 showed a slight decrease on that for 1973. This was due to a considerable drop in Dublin Bay prawn landings from 2,151 metric tons valued at £490,000 to 1,380 metric tons valued at £289,000. However the values of most of the other shellfish landings showed increases over 1973, the most significant of these being lobsters (+ £79,000) and periwinkles (+ £80,000).

The values of shellfish landings over the past ten years are given in the following table:—

TABLE 5.

Year	£'000
1974	1,754
1973	1,773
1972	1,417
1971	1,308
1970	1,102
1969	891
1968	735
1967	517
1966	579
1965	431

EXPORTS.—At £12.3m. exports of fish and fish preparations, including both sea fish and freshwater fish preparations (see Part II of this Report) established a new record. Exports of sea fish preparations at £10.1m. exceeded those of 1973 by £1.7m. or 20%. Details of the exports are given in Appendix No. 4.

PERSONNEL AND VESSELS.—The overall number of men engaged in sea fishing continued to increase in 1974. The number engaged full time rose from 2,424 in 1973 to 2,510 in 1974 while the number of part-time fishermen increased from 4,151 to 4,186. There was also an increase in the number of boats engaged in fishing in 1974, the total being 2,420 compared with 2,347 in 1973. The number of motor fishing vessels over 25 gross tons which are responsible for most of the wet fish catch increased from 298 in 1973 to 315 in 1974 and the number of motor vessels of 25 tons gross and under rose from 828 in 1973 to 844 in 1974.

Further details are given in Appendix No. 7.

TRAINING OF FISHERMEN.—Work on the construction of the new fishery school, An Scoil Isacaigh Naisiunta (The National Fishery School), at Greencastle, Co. Donegal, was completed during the year and the premises were formally declared open by Mr. Michael Pat Murphy, Parliamentary Secretary to the Minister for Agriculture and Fisheries, on 19 July 1974.

Theoretical training under the scheme for training boys as fishermen was transferred to this school in 1974 from the temporary school premises in Moville, Co. Donegal. The period of training extended over 12 months, five of which were spent at a shore course provided in the school. During the remainder of the period practical fishing experience was acquired by the trainees aboard selected fishing vessels. A group of 27 boys commenced training under the scheme on 3 February 1974 and at the end of the year were completing the practical side of the course. A second group of 29 boys commenced their training at the National Fishery School on 2 September 1974 and the course was still in progress at the end of the year.

Since the scheme for training boys as fishermen was introduced in 1959, 460 candidates have completed the course.

Only one candidate presented himself for participation in the shore-course provided to equip experienced fishermen to qualify as skippers and he was subsequently successful in obtaining a Certificate of Competency under the Merchant Shipping Act.

The shore-course, formerly provided in co-operation with the Galway Vocational Education Committee towards equipping experienced fishermen to qualify as skippers, has been terminated with the opening of the National Fishery School at Greencastle. Since its inception in 1958 this Scheme has assisted 123 fishermen in obtaining Certificates. An Bord Iascaigh Mhara continued in 1974 to provide port courses at selected centres and as a result Certificates of Competency under the Merchant Shipping Acts were awarded to a further 55 fishermen.

AN BORD IASCAIGH MHARA.—The Board received from the Fisheries Vote 1973/74 a grant of £1,448,000 in aid of current and capital development and administration. Repayable advances totalling £1,132,000 were also made to the Board from the Central Fund mainly for the provision of boats and gear.

During 1974 the Board continued its efforts to expand exports of fish and fishery products. Significant expansion of exports took place to main markets such as Britain, Western Germany and France. Exports to relatively new markets were well maintained; the most significant increases were achieved in exports to Sweden, Denmark and Belgium. The Board's second Export Workshop held in Boulogne provided an opportunity for Irish exporters to meet French importers with a view to expanding trade. A European office was opened in Paris which will provide details of up-to-date market prices and trends to the industry and valuable assistance to exporters in their negotiations with Continental importers.

Productivity of small vessels was improved through the introduction of new fishing methods and equipment in a number of places along the West and South-West coasts. At ports in Broadhaven Bay, at Inishboffin, Ballyconneely, Dingle and Quilty, new gear, such as tangle nets, automatic line reels and hand reels, was introduced.

Visits were arranged for interested skippers to long-line fishing ports in Britain. Trawling by small powered vessels of 40 feet and under was introduced in Clare and on the North-Mayo coast. The introduction of pair demersal trawling for white fish resulted in increased catches along the South, West and East coasts. Courses in electronic equipment were organised at Hull for Irish skippers. Specialised lectures in meteorology and oceanography were introduced at Killybegs, Castletownbere, Wexford, Howth and Skerries.

The Board assisted Irish fishermen in acquiring 62 new and 3 second-hand boats during the year ended 31 March 1974 and 46 new boats and 1 second-hand boat during the 9 month period ended 31 December 1974.

SEA FISHERIES PROTECTION.—Protection of the exclusive fishery limits involving regular patrols by vessels of the Naval Service of the Department of Defence was maintained in 1974. Prosecutions were instituted against the skippers of five foreign vessels who had been arrested for illegally entering and fishing inside our exclusive fishery limits. Convictions were secured in all cases of which three were under appeal at the close of the year. In the conduct of these cases and in the enforcement of fishery protection measures generally, the co-operation of the Garda Síochána was readily available.

EXPLORATORY VESSEL.—During the year the Department's exploratory fishing vessel "Cu Feasa" continued the study of herring, whiting, cod, plaice and sole on the East, South and West coasts.

MARINE WORKS.—At Killybegs Fishery Harbour Centre good progress was made on the 240 foot extension to the new landing pier and

the 244 foot extension to the jetty at the Blackrock Berthage. Work also went ahead on the new pier and wharf. Four permanent mooring buoys were laid in the outer harbour. Syncrolift gear was purchased and an acceptable tender was received for the Civil Engineering Works connected with its construction. Due, however, to circumstances outside the control of the Department these works have had to be postponed temporarily.

On 11 June 1974 the Parliamentary Secretary made an Order under the Fishery Harbour Centres Act 1968 entitled Fishery Harbour Centre (Killybegs) (Amendment) Order 1974. The Order came into force on 1 July 1974 and enlarged the area of the Killybegs Fishery Centre by amending Paragraph 4 of the Fishery Harbour Centre (Killybegs) Order 1969. On 20 December 1974 the Parliamentary Secretary made an Order entitled Killybegs Pier and Harbour (Amendment) Order 1974. The Order came into force on 31 December 1974 and extended the application of the rates and charges hitherto payable in the Killybegs Fishery Harbour Centre to an additional area incorporated in the Centre in 1974 thereby enabling charges to be made for the use of mooring buoys which had been provided there. Expenditure on development works during the year was of the order of £252,000.

At Castletownbere Fishery Harbour Centre a bridge connecting Dinish Island to the mainland was officially opened by the Parliamentary Secretary on 1 March 1974. The bridge is 625 ft. long and has a 24 ft. wide dual carriageway and a 5 ft. footpath. There are ducts under the footpath for water, electricity and telephone services. Good progress was made on the syncrolift and wharf and on the boatyard adjoining the syncrolift. Expenditure on development works during the year was of the order of £222,000.

On 26 March 1974 the Parliamentary Secretary made an Order entitled Castletownbere Fishery Harbour Centre (Fish Auction Charges) Order 1974. The Order came into force on 30 March 1974 and fixed (1) tolls payable to the Minister by persons who sell fish in the Auction Hall in Castletownbere and (2) an annual charge payable to the Minister by any person authorised to carry on auctions of fish in the Auction Hall.

At Dunmore East Harbour work went ahead on the transfer carriage system associated with the syncrolift and boat repair yard. Expenditure on improvement works during the year was of the order of £18,000.

Other fishery harbour improvement works were completed during the year at Carrig an Eanaigh and Inishbofin, Co. Donegal; Dooega, Porturlin and Saulia, Co. Mayo; Cleggan, Coolacloy, Corradán, Doleen and Furnace, Co. Galway; and Rosdohan, Co. Kerry. A site investigation was completed at Cladnageragh, Co. Donegal.

Works in progress at the end of the year included the improvement of landing facilities at Burtonport, Moville and Ballyhooriskey, Co. Donegal; Spiddal, Co. Galway; Seafeld, Co. Clare; and Knightstown, Portmagee, and Reen (Ballinskelligs), Co. Kerry.

Arrangements were being made at the end of the year to have improvements carried out at Teelin, Magheraroarty and Malinmore, Co. Donegal; Aughris (winch), Co. Sligo; Tipp (Belmullet) Co. Mayo; Cuan Na Luinge and Mace (dredging), Co. Galway; Dingle, Co. Kerry; and at 27 other places in Counties Donegal, Sligo, Mayo, Galway, Clare, Kerry and Louth. Arrangements were also being made to have site investigations carried out at Skerries, Co. Dublin and at Schull, Co. Cork.

The Survey Team set up to make an appraisal of the landing facilities required to meet the present and expected needs of the fishing industry on the coast of County Wexford completed their task at the end of the year and arrangements were in hand to have similar surveys carried out on the coasts of Counties Wicklow, Dublin, Meath and Louth.

EUROPEAN ECONOMIC COMMUNITY.—In accordance with the Treaty of Accession, the second 20% reduction in customs duties on imports into the Community from Ireland came into effect on 1 January 1974 and mainly benefitted exports of shellfish and salmon. The home market was not affected by the corresponding reduction in the Irish rate of duty. The first stage in the alignment of Irish duties to the EEC Common Customs Tariff (CCT) on imports from third countries also took place on 1 January 1974. The changes related to processed fish only as the Irish rates of duty already correspond to the CCT in the case of fresh and frozen fish. Quantitative restrictions on imports of trout and carp, which we were allowed to retain following accession to the Community, were abolished by Regulation 1555/74 of 17 June 1974. In the case of carp a reference price regime is being substituted but no restrictions other than CCT apply to trout as from that date.

Arising from the decision of the Council of Ministers in September 1974 to increase prices for agricultural products and to alter the representative rate for the Irish £ for the purposes of the Common Agricultural Policy, higher guide and withdrawal prices were fixed for the varieties of fish coming under the Community's withdrawal price system. The revised prices came into effect on 7 October. Regulations 3141/74 of 9 December 1974 and 3324/74 of 20 December 1974 fixed the guide and withdrawal prices respectively for the 1975 fishing season. The withdrawal prices for 1975 showed further increases over those which previously applied, particularly for whiting, herring and mackerel.

Market intervention did not occur during the year as no Producers' Organisation of fishermen had been established. However, good progress towards the formation of such an organisation was made and by the end of the year it was expected that an Irish fish producers' organisation would be in operation early in 1975.

Under the FEOGA Individual Projects Scheme (Guidance), seven fishery projects, comprising four harbour improvement schemes, two fish processing projects and one project on research into salt water rearing of salmon were approved by the Commission for aid totalling £135,574. The projects were among those submitted to the EEC

before 30 June 1973. The closing date for receipt of applications in 1974 was also 30 June and eleven fishery projects, comprising six applications for aid towards the purchase of 24 fishing vessels, four processing projects and one harbour improvement scheme were submitted to Brussels before that date. These projects were still under consideration by the Commission at the end of the year.

Proposals for the restructuring of inshore and offshore fishing fleets of member States were considered further during 1974 but no formal proposals on the matter had been arrived at by the Commission at the close of the year.

Discussions continued at Council working group level on the draft regulation concerning conditions for granting national aids under the common structural policy for sea fishing and it was evident by the end of the year that the discussions would continue well into 1975 before any state of finality was reached.

SCIENTIFIC INVESTIGATIONS. — During the year six Fishery Leaflets on marine topics were published together with four issues of *Irish Fisheries Investigations Series B (Marine)* the details of which are given on page 71.

Investigations into the herring stocks on various parts of the Irish coast were continued during 1974 and advanced information on them and their fisheries was distributed to the trade in Fishery Leaflets Nos. 61, 62 and 63. Regular estimations of the fat content of herrings and number of herrings per kilogramme were made and in the usual way the results were conveyed to the trade. Young herrings landed for reduction to fish meal at Mornington were examined in an effort to determine to what adult stock they would later recruit. The stocks of herrings exploited by boats from counties Louth and Dublin in the northern Irish Sea were investigated and subjected to more detailed studies because of their increased importance. The young herring survey, commenced in 1972, was continued in conjunction with the Netherlands R.V. *Tridens*.

Some samples of sprats were examined in 1974 from the Irish Sea. Work on plaice, sole and cod was intensified in 1974 and haddock was added by the Autumn of that year. The objective of these programmes is the collection of basic data of stock composition by age, weight and length.

Investigations on the lobster and lobster fisheries were continued during 1974. The annual trap census was continued and the results for the year 1973 were published in *Fishery Leaflet* No. 65. Studies on the storage requirements of crawfish were undertaken at the Dunmore East Field Station and large samples were examined from counties Wexford, Cork, Kerry, Clare and Donegal. Officers of the Department gave advice to the public in relation to the handling and storage of both lobsters and crawfish. Preliminary results of investigations into precise conditions required for storage of lobsters and crawfish are described in *Fishery Leaflet* No. 64.

The investigations on Dublin Bay prawns (*Nephrops norvegicus*) were continued.

Results of previous work on Dublin Bay prawns were published in *Irish Fisheries Investigations* Nos. 12 and 13. Two further papers were in preparation at the end of the year.

The marking experiment undertaken off the South-West coast in July 1973 was followed up with a recapture experiment using divers as before. Five marked prawns were obtained, giving data of growth over the year and a further two hundred and eighty prawns were simultaneously marked and released.

Regular monitoring of the oyster spat fall in Tralee Bay was continued during the year. The ambient temperatures were very low and except for a small spatfall in July no further larvae were produced. This is only the second time in 10 years that this oyster stock failed to reproduce itself adequately. As usual advice was given to the public on various aspects of oysters and their development.

Work was continued on mussel stocks and on areas which appear to have potential for development as mussel fisheries along the South coast of Ireland. Two reports were published as *Fishery Leaflets* Nos. 46 and 47.

Investigations were continued on scallops (*Pecten maximus*) and queens (*Clamys opercularis*) and a study of the distribution and size of scallops in the Irish Sea gave encouraging results.

A considerable amount of time was devoted to the study of oil pollution and advice was given to local and other authorities as to the best method of dealing with oil slicks etc. The incidence of heavy metals accumulated by mussels in a number of sensitive areas was recorded. In view of the designation of Cork Harbour as an area for industrial development a preliminary study of the conditions was undertaken during the year with the assistance of undergraduate students. The research programme on the fauna of the inner part of Bantry Bay was continued during the year.

A major oil spill (approximately 2,600 metric tons) occurred in Bantry Bay on 22 October 1974 due to improper valve operation during the loading of a tanker at Whiddy Island. Two scientific officers of the Fisheries were immediately assigned to carry out a full investigation of the extent of the damage to the local fisheries.

Although a near complete clearance of the oil had been effected by mid November the short-term and long-term effects of the spill on the ecology of Bantry Bay were still under investigation at the end of 1974 by the Department.

Members of the scientific staff continue to give advice to the general public on a wide range of topics and as usual identify interesting species of fishes taken in Irish waters from time to time.

During 1974 interesting, rare or scarce species of fishes taken within the 100 fathom line were as follows:

1. Six-gilled shark (*Hexanchus griseus*).
2. Electric ray (*Torpedo nobiliana*).
3. Undulate ray (*Raja undulata*).
4. Sting ray (*Dasyatis pastinaca*).
5. Sturgeon (*Acipenser sturio*).
6. Salmon (*Salmo salar*), (smolt at sea).
7. Greater forkbeard (*Phycis blennoides*).
8. Black bream (*Spondylusoma cantharus*).
9. Boar-fish (*Capros aper*).
10. Ray's bream (*Brama brama*).
11. Red band-fish (*Cepola rubescens*).
12. Sun-fish (*Mola mola*)*.
13. File-fish (*Balistes carolinensis*).

Some specimens of the species indicated by an asterisk were taken on rod and line.

Two members of the Department's scientific staff continue to act as members of the Irish Specimen Fish Committee and they and other members of the staff identified, on behalf of the Committee, fish submitted as specimens.

ENGINEERING

Fishing Ports and Landing Places. — In continuation of the arrangements made in previous years to appraise the existing landing facilities and to make recommendations for works required to meet the present and expected needs of the fishing industry, the Survey Team appointed to inspect and make recommendations for the fishing ports and landing places in Co. Wexford completed this assignment and presented the report to Mr. Michael Pat Murphy, Parliamentary Secretary to the Minister for Agriculture and Fisheries, in October. As in previous years the team engaged in this survey acted under the chairmanship of Mr. S. Ó Mealláin, Consultant to the Department, and comprised representatives of the Department of Agriculture and Fisheries, the Office of Public Works, Wexford County Council, Bord Failte and An Bord Iascaigh Mhara.

Work continued on the implementation of the recommendations made in previous years for various counties by survey teams. These recommendations were reviewed and brought up to date where necessary to take account of developments in fishing activities at the various centres since the recommendations were made and, where necessary, suitable adjustments were made.

To date the Special Harbour Survey Teams have inspected 865 fishing ports and have recommended improvement works for 258 of the

places visited. 83 schemes have already been carried out at a cost of £4,306,093 of which Roinn na Gaeltachta has contributed £1,102,162. 36 further schemes have been approved at a cost of £718,475 of which Roinn na Gaeltachta will contribute £229,860. 20 proposals are at present under examination. Details of the works at present in progress on fishing ports and landing places generally and on the development of the major fishery harbours at Castletownbere and Killybegs can be found under the heading Marine Works on page 13.

Marine Pollution. — The Water Quality Monitoring Survey of Cork Harbour area was continued during the year in collaboration with Pfizer Chemical Corporation. Surveys were carried out at critical periods during neap tides and spring tides in the Spring and in the Autumn. A similar type water quality survey of Killybegs Harbour area, which was commenced in October last year, was conducted during the year on a monthly basis at times of neap tide and spring tide. On each occasion samples of water from six monitoring stations were taken and submitted for analysis to the State Laboratory. The intention is to establish a baseline for a monitoring programme to be conducted hereafter at six monthly intervals to provide an early warning of any marked deterioration in the water quality so as to provide ample time for remedial action.

This survey was completed in October and arrangements were put in hand to carry out a similar survey in the harbour area of Castletownbere commencing in January 1975.

This year was remarkable for the large number of proposals received involving the discharge of large quantities of effluents into many of our principal estuaries. Seven major projects in particular called for special attention and recommendations were made in the case of each in the fishery interest.

Removal of Sand and Gravel from the Seabed. — During the year a number of proposals for the removal of sand and gravel from the seabed were investigated. These were not favourably received by the Department in the absence of information as to the likely consequences for fish stocks and the food of fish. This matter is the subject of investigations by the International Council for the Exploration of the Sea and in general the Department favoured deferring action on such matters pending the outcome of these investigations.

Continental Shelf Exploration.—A number of proposals to undertake seismic investigations in the Continental Shelf area were examined and the sponsors advised on likely implications for the fishery interest. In one instance, at the request of the Department, exploratory work was postponed for a number of months to avoid a clash with the herring fishing activities.

TECHNOLOGY

Fish Quality Regulations.—The Fish Quality Officers continue to supervise fish landings to ensure compliance with the Demersal Fish

(Handling, Storage and Transport) Regulations, 1967, as amended by the Demersal Fish (Handling, Storage and Transport) Regulations, 1973.

Draft regulations with the object of improving the handling, storage and transport of pelagic fish and molluscar shellfish which have been drafted in consultation with An Bord Iascaigh Mhara were brought a stage further towards implementation in the near future.

Fishery Products—Export Control.—The control of the export of certain fishery products under licence in compliance with the Order made in November 1971 by the Parliamentary Secretary to the Minister for Agriculture and Fisheries under the Agricultural and Fishery Products (Regulation of Export) Act, 1947, operated satisfactorily during the year in respect of those products for which the Institute for Industrial Research and Standards had formulated standard specifications. Export licences were granted for those products for which applicants were licensed by the Institute to use its Standard Mark.

Standard Specifications for Fishery Products.—The Inspector and Engineer continued to act as Chairman of the Working Group comprising representatives of the Department of Agriculture and Fisheries, An Bord Iascaigh Mhara, the Institute for Industrial Research and Standards and members of the fish trade to advise the Institute for Industrial Research and Standards on the formulation of standards for fishery products.

National Codex Alimentarius Committee.—The Sub-Committee on Fish and Fishery Products continued to advise the National Codex Committee on Codex matters of importance to Ireland arising in the formulation of the International Codex Standards for Fish and Fishery Products. The Sub-Committee under the Chairmanship of the Inspector and Engineer, consisted of representatives of the Department of Agriculture and Fisheries, the Institute for Industrial Research and Standards, An Bord Iascaigh Mhara, the State Laboratory and the Confederation of Irish Industries.

Electrified Nephrops Trawl.—Work on the development of an electrified nephrops trawl which was interrupted last year was re-commenced and continued this year concentrating upon the design of suitable pressure housing and the elimination of battery spillage and explosion risks.

Fishing Gear Technology.—One of the Assistant Engineers accompanied by two Sea Fishery Officers attended a short course on fishing gear technology at Kingston-upon-Hull Nautical Training College in November 1974.

INTERNATIONAL AND OTHER CONFERENCES

a. *International Council for the Exploration of the Sea.*—The Department's Inspector of Fisheries and Scientific Adviser and the Inspector

of Fisheries on the sea fisheries side took part in the annual meeting of the Council held in Copenhagen from September 29 to October 8, 1974.

Representatives of this country took part in the discussions in the Shellfish and Benthos, Fisheries Improvement, Pelagic Fish (Northern), Demersal Fish (Northern), Statistics and Hydrography Committees. Papers were contributed to the discussions in the Pelagic Fish (Northern), the Statistics and the Shellfish and Benthos Committees.

During the year the Department's Inspector of Fisheries on the sea fisheries side continued as a Vice President and attended Bureau meetings of the Council in London in May and in Copenhagen in September and October 1974.

An Assistant Inspector of Fisheries took part in two meetings in Copenhagen of the Herring Assessment Working Group for the Area South of 62°N. This Working Group covers our most important herring fisheries, one off Donegal and one in the Celtic Sea.

An Assistant Inspector of Fisheries represented Ireland at an ICES working group studying the effects of the removal of sand and gravel from the seabed. The Inspector of Fisheries (Marine) represented Ireland at the ICES working group studying the movement of non-indigenous species within or into the ICES area.

One of the Assistant Inspectors of Fisheries continued a two-year appointment as Statistician to the Council.

b. North-East Atlantic Fisheries Commission.—This body was set up under the provision of the North-East Atlantic Fisheries Convention of London 1959. The Assistant Secretary in charge of fisheries and the Department's Inspector of Fisheries and Scientific Adviser attended as the country's permanent representatives at the annual meeting held in Bonn in 1974 when the question, inter alia, of the Celtic Sea and Co. Donegal herring stocks was discussed. Arrangements were then made for a meeting of a Working Group on North Sea and Celtic Sea Herrings to be convened in London in October to prepare a report for a special meeting in December.

The mid-term meeting of the Commission was held in Hamburg in November 1974 to determine quotas for herrings in the Celtic Sea and to consider further the quotas for sole and plaice in the Irish Sea. It was agreed to allocate to Ireland 14,000 tons, out of a total of 25,000 tons of herring to be taken from the Celtic Sea in the year beginning 1 April 1975 and ending 31 March 1976.

c. Meetings dealing with Marine Pollution.—An officer of the Department attended the first meeting of the Oslo Commission in October 1974 concerned with the operation of the Oslo Convention which Ireland signed on 23 June 1972. The Oslo Convention aims at controlling the deleterious effects of dumping at sea by eliminating the dumping of the more toxic substances and limiting the in-puts of the less toxic ones. The Convention applies to the same area as the North-

East Atlantic Fisheries Commission. The London Convention of 1972 on dumping is similar in context to the Oslo Convention but global in area application.

The Inspector of Fisheries attended a meeting in Paris in October 1974 of the Interim Commission to the Paris Convention for the Prevention of Marine Pollution from Land-Based Sources.

An Assistant Inspector of Fisheries attended two meetings of the EEC Working Group concerning water quality criteria for mollusc farming areas and one meeting of an EEC working group studying matters relating to chemical analysis of pollutants.

The Inspector of Fisheries was a member of a special Study Group set up under the COST programme to advise on the priority ratings for Research and Development in the field of Oceanology. A report was finalised and sent to the Commission for a directive.

d. Visits to Fisheries Research and other Marine Laboratories. — During the year members of the staff of the Department made special visits to fisheries research and other marine laboratories outside Ireland. The laboratories visited included the Burnham-on-Crouch Laboratory of the British Ministry of Agriculture, Fisheries and Food, the Fisheries Experiment Station, Conway, North Wales, the Hydrographical Laboratory at Charlottenlund, Denmark, and the laboratories associated with oyster production in Brittany and the Netherlands.

One of the Assistant Inspectors attended the Challenger Society meeting at the National Institute for Oceanography, in Godalming, Surrey. Later he attended the Meeting of the Shellfish Association of Great Britain specially convened to discuss the future of the Japanese oyster (*Crassostrea gigas*).

e. Second Session of United Nations Third Conference on the Law of the Sea.—Ireland was represented by officers of the Department at meetings in Brussels, Bonn, and Copenhagen of the EEC Co-ordinating Group engaged in preparation for the UN Conference on the Law of the Sea. Mr. S. Ó Mealláin, Consultant to the Department, represented the Department at the Conference in Caracas, Venezuela, held in April/May 1974. The Inspector and Engineer and the Department's Consultant participated in the preparation for this Conference and at subsequent meetings as members of a Preparatory Working Group which was set up by the Department of Foreign Affairs.

In connection with the preparation for this Conference and for negotiations arising from and following upon the deliberations to date a special brief detailing the life cycle of anadromous fish particularly the Atlantic salmon and setting out the important economic value of this fish to inhabitants of our Western Seaboard and the necessity to avoid any action that would result in the extinction of the species due to over-exploitation on the high seas was prepared and circulated for the information of all participants at the Law of the Sea Conference.

f. *Codex Alimentarius Committee on Fish and Fishery Products.*—The Department's Inspector and Engineer attended as a delegate at the Annual Meeting of the Committee on Fish and Fishery Products of the Codex Alimentarius Committee which was held in Bergen, Norway, in October in connection with the preparation of International standards for various fishery products.

g. *National Committee for Geodesy and Geophysics.*—The Inspector and Engineer was the Departmental representative on this Committee.

LEGISLATION

The Sea Fisheries (Amendment) Act, 1974 became law on 24 December 1974. This Act increased the upper limit on borrowings by An Bord Iascaigh Mhara from the Exchequer to £15 million, authorised the Board to make other borrowings in foreign currencies and made provision for the giving of a State guarantee for the repayment of sums borrowed by the Board.

Particulars of Statutory Instruments relating to sea fisheries made during the year are included in Appendix No. 22.

PART II.

INLAND FISHERIES

Details of the catches of salmon, sea trout and eels in the various Fishery Districts during 1974 are given in Appendices Nos. 11 to 17 to this Report. As usual the catches made in the Foyle Fisheries Commission area, formerly the Moville Fishery District, are not included but they are referred to in a separate section of this Report.

In 1974 the catch of salmon and grilse amounted to 623,693 fish weighing 1,992 metric tons and valued at £2,332,708, compared with 538,330 fish weighing 1,812 metric tons and valued at £2,297,236 for 1973. The overall average weight at 3.19 kgs. was slightly lower than in 1973. The grilse component of the catches was again of relatively high average weight.

Conditions for angling were not good in 1974 despite adequate stocks of fish. Rod catches amounted to 16,308 fish weighing 58,500 kgs. valued at £68,420 compared with the figures for 1973 when 25,424 fish weighing 93,600 kgs. and valued at £118,700 were caught.

The salmon catch figures for nets and rods for the years 1972, 1973 and 1974 are given in Appendix No. 12. In the year 1974 the salmon and grilse catch (by weight) was distributed as follows:—

Drift nets	...	72.2%
Draft nets	...	19.8%
Stake nets, snap nets, weirs and other commercial methods	...	5.1%
Rod and Line	...	2.9%

The proportion of fish taken by drift nets showed an increase in 1974 on that of the previous year when the percentage caught was 65.7%.

The total number of licences of all kinds for angling for salmon and sea trout was 12,951 compared with 11,788 for the previous year. The average catch of salmon per licence in 1974 was 1.25 fish weighing 4.52 kgs. and valued at £5.28 compared with 2.15 fish weighing 7.94 kgs. and valued at £10 for 1973. The average weight of rod-caught salmon was 3.59 kgs. compared with 3.67 kgs. in 1973. The highest average weight (4.85 kgs.) was, as has been the case for a number of years past, obtained in the Drogheda Fishery District. In this District the rod catch is largely made up of fish which have spent two or more years feeding in the sea, rather than of grilse which have spent less than two years in the sea. On the other hand in most western districts the average weight of rod-caught fish was low because the catch consists almost entirely of grilse.

During 1974 the runs of small spring fish (two years feeding in the sea) and to a lesser extent of large spring fish (three years feeding in the sea) showed a marked decline on the 1973 figures.

The Corporation of Dublin Wholesale Fish Market and firms associated with it handled 169,946 salmon and grilse weighing 629,500 kgs. in 1974 compared with 148,357 fish weighing 506,300 kgs. in 1973. In 1974 this market handled about 27.2% by number and 31.6% by weight of all the fish taken in the country outside the Foyle area.

Details of the catch of sea trout in 1974 in the various Fishery Districts are given in Appendix No. 13. The total catch in 1974 amounting to 77,200 kgs. and valued at £68,000 was double the 1973 figure, when the catch valued at £35,180 amounted to 33,200 kgs. Very little commercial fishing specifically for sea trout is undertaken in this country and in 1974 about half the catch was taken on rod and line, the remainder being taken as a by-catch of commercial fishing for salmon. Because in many cases the by-catches are small the commercial fishermen concerned do not record their catches accurately so that the returns given in Appendix No. 13 represent a minimum catch rather than the true figures. The catch of sea trout as returned was distributed by weight as follows:—

Rod and Line	...	53.9%
Draft nets	...	35.3%
Drift nets and other commercial methods		10.8%

The catch of sea trout on rod and line was 41,600 kgs., a considerable increase on that of 1973. Because in many Fishery Districts few anglers fish specifically for sea trout, the average catch per licence, unlike that for salmon, gives a rather poor indication of the potential for sea trout fishing as a whole.

As mentioned earlier, conditions were not favourable for angling during parts of the 1974 season but conditions varied very much from district to district. Although it is difficult to estimate the size of the runs of smolts to the sea without special counting devices, most of the Boards of Conservators report average smolt runs in 1974.

Spawning stocks were also very varied in character. In some districts, particularly in the South-West, spawning stocks were poor, whereas in other areas they were reported as being adequate.

Ulcerative Dermal Necrosis (UDN) continued to affect salmon, and to a very much lesser extent sea trout and brown trout, during the year. Outbreaks of the disease in salmon were still serious in the Rivers Lee, Owengarve, Waterville and the Erne. Some small rivers were also affected. However, generally the degree of incidence was low and was restricted mainly to the colder months of the year. The effect on sea trout and brown trout during 1974 was slight and as in previous years the disease was not detected in fish other than salmon, sea trout or brown trout. Despite the presence of the disease in some rivers large numbers of healthy or clean salmon were taken on rod and line.

As explained in earlier reports the returns for the catch of eels (Appendix No. 16) are incomplete. The quantity returned for 1974 amounted to 67,300 kgs. valued at £78,600. There is evidence, however, that the catch was higher than the figure returned.

Economic Evaluation.—The Economic and Social Research Institute which carried out an economic evaluation of Irish salmon fishing sponsored by the Department published the two final papers of its study entitled "The Irish Anglers" and "The Commercial Fishermen" in 1974.

The first paper, "The Visiting Anglers", was published in 1973.

INLAND FISHERIES COMMISSION.—The Commission continued its work during 1974. Further action was taken on the three interim reports on control of drift and draft netting and on pollution as set out underneath.

Regulation of Salmon Net Fishing.—Net Fishing for salmon during 1974 was regulated by the Control of Fishing for Salmon Order 1973. The position was fully reviewed at the end of the season, following which the Control of Fishing for Salmon Order 1974 in respect of the 1975 season was made.

The main features of this Order are:

- (1) the limitation of net licences to the figures that applied in 1974,
- (2) the recognition of having held a licence in the previous year as a number one priority of eligible candidates,
- (3) the retention of the additional restriction on commercial fishing in privately owned fisheries which extends the weekly close time to 1.00 p.m. on Mondays (as compared with 6.00 a.m. in the case of the public fisheries). Because of unusual circumstances one privately owned fishery on the River Blackwater is exempt from the extension of the weekly close time.

Pollution.—During 1974 the Department organised and financed the recruitment of six Water Pollution Officers specially trained for the monitoring of water quality, analysis of samples and presentation of prosecutions in Court. These officers form part of the Board's staff, each officer acting for a number of Boards.

BOARDS OF CONSERVATORS.—Details of receipts and expenditure of Boards of Conservators in the fishery year ended 30 September 1974 are given in Appendix No. 18.

EMPLOYMENT IN THE INDUSTRY.—Exclusive of persons employed on the marketing and transport of fish a total of some 6,500 persons found either whole-time or part-time employment in inland fisheries during the year. The figure includes 4,550 persons estimated

as engaged in netting for salmon under common law right, 414 employed by Boards of Conservators on portection of fisheries over the open and close seasons, 800 engaged in netting in the Foyle area or employed in that area on protection work, 150 engaged in development work on behalf of Inland Fisheries Trust Inc. and the remainder employed by proprietors of commercial salmon fisheries, by sport fishery owners or by angling associations.

INSTRUMENTS OF CAPTURE. — The total number of fishing licences of all kinds issued during the year was 15,253.

The totals in recent years were:—

1973	...	14,212
1972	...	12,134
1971	...	12,975
1970	...	13,666
1969	...	12,808
1968	...	11,796
1967	...	12,626
1966	...	13,809
1965	...	14,647
1964	...	13,598

The numbers of the various classes of licences issued in each fishery district during the year and the rates of licence duty are given in Appendices Nos. 19 and 20 respectively.

EXPORTS OF FRESHWATER FISH.—Salmon:—The total quantity of salmon exported in fresh, chilled, frozen and smoked forms was 1,269 metric tons compared with 1,207 metric tons in 1973. Total value of these exports dropped from £1,966,000 in 1973 to £1,880,000.

Details for the two years are as follows:

1974			1973	
	metric tons	£'000	metric tons	£'000
Fresh, chilled and frozen salmon ...	1,227	1,736	1,174	1,884
Smoked salmon ...	42	144	33	82

Of the total quantity of fresh, chilled and frozen salmon exported in 1974, 860 metric tons went to Great Britain, 167 metric tons to France, 74 metric tons to the Six Counties, 63 metric tons to Spain, 35 metric tons to Belgium/Luxembourg and 15 metric tons to the Netherlands.

The smoked salmon was exported mainly to the Federal Republic of Germany (9 metric tons), U.S.A. (7 metric tons), Belgium/Luxembourg (5 metric tons), Great Britain (4 metric tons), France (4 metric tons), the Six Counties (4 metric tons) and Switzerland (4 metric tons).

The average export price of fresh, chilled or frozen salmon was £1,415 per metric ton as compared with £1,605 per metric ton in 1973. The foregoing figures include landings of salmon in County Donegal from waters in the area administered by the Foyle Fisheries Commission.

Ninety eight licences to export salmon under the Agricultural and Fishery Products (Regulation of Export) Act, 1947 (Export of Salmon) Order, 1954 (S.I. No. 275 of 1954) were issued during the year.

Rainbow Trout: Exports of rainbow trout in 1974 amounted to 180 metric tons valued at £145,000 as compared with 241 metric tons valued at £155,000 in 1973.

Eels: Exports of eels in 1974 amounted to 109 metric tons valued at £127,000 as compared with 93 metric tons valued at £75,000 in 1973.

EEL FISHING DEVELOPMENT.—As indicated in the paragraphs dealing with scientific investigations and engineering, work continued during the year on the investigation of eel stocks and eel fishing techniques and advice and information on eel fishing was given to interested persons.

Nineteen eel fishery authorisations were issued during the year bringing the number of eel fishing engines operating under such authorisations in 1974 to 43.

ARTIFICIAL PROPAGATION.—Details of salmon, sea trout and brown trout ova produced at the various hatcheries are given in Appendix No. 23.

The output of salmon ova in the 1973/74 spawning season amounted to 2,792,000. 266,000 salmon ova/fry were distributed from the Department's hatchery at Glenties, Co. Donegal.

200,000 salmon ova were imported from Northern Ireland. This ova was used to supplement home supplies for the re-stocking of rivers which had been affected by UDN disease.

The produce of Cong and Virginia Hatcheries was reared to under-yearling stage to be distributed as follows:—

Cong—River Moy System

River Clare

River Spiddal

River Cong.

In addition 20,000 were set aside for rearing to smolt stage for B.I.M. These are being reared to adult salmon in cages, in the sea, at the B.I.M. experimental station at Killary Harbour.

Virginia—River Boyne System.

The produce of Carrowmore Lake Incubating Unit, which is mostly that of Spring fish, was reared at Cong and Virginia Hatcheries to underyearling stage to be distributed as follows:—

Cong to Owenmore System

Virginia to Slaney.

Over 2 million brown trout ova were handled at Inland Fisheries Trust hatcheries and production for the year exceeded 1,500,000 consisting of eyed ova, fry, summerlings, autumn fingerlings, yearlings and adult trout. 800,000 of these were released into trout waters being developed by the Trust and over 500,000 were sold to angling clubs and other fishing interests.

100,000 rainbow trout ova were handled by the Inland Fisheries Trust and production for the year was 71,000 consisting of fingerlings and adults. Of these 50,000 were stocked in Trust rainbow trout waters and 10,000 were sold.

SCIENTIFIC INVESTIGATIONS

SALMON.—Investigations are continuing into the fluctuation and composition of the runs of salmon. Scale sampling and monthly catch statistics were compiled for a number of river systems with a view to making a continuous assessment of the predominant age grouping of salmon in Irish waters. In 1974 the catch of salmon, over 2,000 metric tons, was the highest recorded to date. Salmon were very abundant in coastal waters and the escapement of salmon into freshwater was above average. The run of grilse (1 + sea winter fish), which forms the major portion of our catch, appeared at least 10 days earlier than in 1973. It reached a peak on or about mid-June and by the first week in July the run had petered out.

A large-scale tagging programme was carried out, with the co-operation of the commercial fishermen, in the Cork Fishery District. A total of 370 clean salmon were tagged and a return of 13% was obtained. The returns from tagged salmon show that the rivers flowing into Kenmare Bay, the Cork Blackwater and the River Shannon are the major contributors to this drift net fishery. The longest distance migration recorded from the experiment was to Ayr in Scotland, whilst another fish was recaptured in the River Ribble in Lancashire.

The kelt tagging programme was continued in 1974, when a total of 292 female salmon which had been retained in the various Hatcheries as broodstock, were tagged. Only 1.4% of these had been recaptured up to the end of 1974. The poor return is attributed to the prevalence of UDN disease in brood stock fish impounded for hatchery purposes.

Special attention was again paid to the newly-developed west Cork drift net fishery. This fishery started in 1970 when it was concentrated in Bantry Bay. By 1974 it had extended along the Cork Fishery District from Crow Head to Ballycotton and the catch increased from

approximately 2,000 in 1970 to 56,000 in 1974. The effect of this fishery on the adjoining inshore fisheries in the Ilen River, Bantry Bay, Kenmare Bay and Castlemaine Harbour was investigated. Data was collected on the size and composition of the escapement and the spawning stock in these areas. Surveys of juvenile salmon stocks were carried out in the rivers flowing into Bantry Bay and the River Ilen, which flows through Skibbereen. From observations made at the various collecting stations it is evident that the rearing stations on the River Shannon and on the River Lee are making significant stock contributions to the west Cork drift net fishery.

For the purpose of later identification the adipose fins of hatchery reared smolts are clipped prior to release. Adult salmon so marked were recaptured in the Cork drift net fishery in 1974. Others were recaptured at places which were a substantial distance from their natal river, four being recorded from the north Mayo coast and one on the Durham coast of England.

British Smolt Tagging.—Fifteen salmon, which had been tagged as smolts in Britain at stations as far apart as the North Esk in Scotland and the River Axe in southern England, were recaptured over a wide area of the Irish Coast at such places as Dungarvan, Co. Waterford, Galley Head, Co. Cork and off the Galway, Mayo and Donegal coasts. It is interesting to note that seven of these recaptures had been hatchery reared and eight had been wild stock when first tagged and released in Britain.

Greenland Salmon Tagging.—Some further information arising from the joint Greenlandic salmon tagging programme of 1972 (sponsored by the International Council for the Exploration of the Sea) was obtained in 1974. In 1972, 2,364 salmon were tagged off Greenland and up to the end of 1973 eight of these had been recaptured in Ireland in the River Maine, Co. Kerry, Rivers Ballycotton and Glengariff, Co. Cork and in Waterford Harbour. No recaptures were made in 1974.

Faroes Salmon Tagging.—The Faroes Fishery Authority undertakes a programme of tagging immature salmon which have been caught in their long-line fisheries. Two recaptures of these tags have been recorded in Ireland. The first, which had been released off Faroe in March 1972 was recaptured in the River Blackwater (Munster) in June 1972 and the second, released in May 1974, was recaptured in the following July in the River Dawros, Co. Galway. The characteristics of feeding salmon, both males and females, in Irish coastal nets were studied in 1974.

Investigations into the effects of the Boyne arterial drainage on salmon stocks were continued. The results of the study of the effects of drainage on the flora and fauna of the Trimblestown River (a dredged and drained tributary of the River Boyne) have been prepared for publication.

In the light of proposals to abstract water from the River Smearla in Co. Tipperary in connection with the North-East Kerry Regional Water Supply Scheme a biological assessment of this river was initiated

in 1974 in order to estimate fish stocks. Due to possible changes in the flow regime downstream of the impoundment, a preliminary survey of the fish population as well as the invertebrate fauna and flora was made in this area. This is a long-term project, which will be of considerable importance to freshwater investigations because of the potential for fishery improvement which it offers.

Further studies were made into the survival of juvenile salmon in the River Owenea in County Donegal. Artificial redds were excavated and planted with eyed ova in a number of river systems, and comparisons were made between the efficiency of this method and that of planting with unfed fry.

Hatcheries.—The Department's scientific staff paid regular visits to the State-operated hatchery on the River Owenea. The fecundity of salmon impounded for stripping was estimated volumetrically. A close correlation was found between the length of the fish and egg production, whereas there was no clear correlation between the weight and egg production.

The Department continued to advise the Galway Board of Conservators and the Administrator in Drogheda on the operation of the rearing stations at Cong and Virginia respectively. Records were obtained on the survival rate from the eyed ova to the under-yearling stage at both these stations. Advice was given on the distribution of the progeny. Assistance was also given to the Bangor Board on the operation of the Incubation Unit on the Owenmore system. Broodstock fish were netted in Carrowmore Lake and electro-fished on the Glencullen River under the direction of the Department's staff.

SEA TROUT.—The collection of scales and relevant data on sea trout initiated in 1973 was continued in 1974 with the aid of student bursars.

BROWN TROUT.—Investigations on the length and age at first spawning of trout taken on Loughs Corrib, Mask and Carra were continued in 1974. Data on the growth rate, fecundity and spawning frequency of trout is also being collected.

RAINBOW TROUT.—Regular visits were paid to all rainbow trout farms during the year and data was collected on the survival rates, brood stock performance, incidence of disease and operational costs. The total production of rainbow trout in 1974 was 211 metric tons. Advice, where sought, was given to persons interested in fish farming generally.

EELS.—The benefits arising from catching elvers in large numbers and stocking them in public fisheries are being investigated. Elver runs were monitored over a wide range of rivers extending from the River Lennon to the River Fergus. A sampling programme of trapped migrating or silver eels was begun in the Autumn of 1974 at Galway and Killaloe. The sampling of yellow eels using standard trains of summer fykes was continued in selected waters; at Broadmeadow, Co. Dublin, the South Slob at Wexford, at Killaloe and in Lakes Coutra, Derravarragh and Arrow.

FISH DISEASE.—During 1974 the Veterinary Research Laboratory continued its efforts to grow a trout epidermal cell line using explants from brown trout. So far, although the growth has been satisfactory, the cells became fibroblastic on passage. Different methods are being used in attempts to stop this happening. Experiments concerned with salmon immunity to UDN disease have been hampered by the difficulty of obtaining live diseased fish.

MISCELLANEOUS.—The Department's Inspector and Assistant Inspectors continue to advise the Boards of Conservators on protection and conservation. The Inspector of Fisheries is the Department's representative on the Advisory Committee of the Water Resources Division of An Foras Forbartha and is also a member of the Donegal County Committee on the control of water pollution.

One of the Assistant Inspectors is a member of the Technical Project Committee set up by the Kerry County Council to advise and plan for the major abstraction scheme proposed for the River Feale in Co. Kerry.

The current holders of studentships in Fisheries Science continued to study the phyto-plankton of Lake Garadice and St. John's Lake on the Erne system. The final reports were received from the previous holders of studentships in the following research projects:—

- (a) Trichoptera in Irish Lakes.
- (b) The distribution, substrata preference and life history of *Asellus aquaticus* and *A. meridianus*.
- (c) Protein polymorphism in Atlantic salmon.
- (d) The haemoglobin and eye proteins of fish hybrids.

ENGINEERING

Arterial Drainage.—Work continued on the major arterial drainage scheme for the catchment of the River Boyne. There were regular inspections of the works in progress and consultation took place with officers of the Office of Public Works to ensure that all practicable steps were taken in the course of the work carried out on each channel or as soon as possible after its completion, to safeguard fishery interests in accordance with the proposals for this purpose drawn up by Fisheries Division prior to the implementation of these schemes. Once again effective use was made of an electric barrier to exclude spawning fish from the River Deale, a tributary of the Boyne, where drainage works were in progress in spawning areas during the spawning season.

Further improvements were carried out to the salmon trapping installation at Blackcastle, Co. Meath, on the River Boyne on the instructions of the Department.

The provision of this and other installations was undertaken by the Office of Public Works as a charge on the cost of the drainage scheme to compensate for the interference with fishery interests by the drainage works.

The Department's officers collaborated with the Office of Public Works in the carrying out of a cost/benefit analysis for the River Maigue Catchment Drainage Scheme by the collection and supply of information on fishery interests in the catchment and by undertaking an assessment of the likely effects of the drainage works on these fishery interests. The results were made available to the Office of Public Works for incorporation in the analysis.

A cost/benefit analysis of a similar nature for the major arterial drainage scheme proposed for the Mask/Carra Catchment was initiated by the Office of Public Works and arrangements were made by this Department's officers in collaboration with officers of the Inland Fisheries Trust to supply all information about fishery interests for the purpose of the investigations. There were frequent consultations between the officers of the Department and engineers of the Office of Public Works to ensure that the post drainage maintenance works on various major arterial drainage schemes carried out in recent years were implemented in such a manner as would minimise the dangers to fish life in the various rivers.

Electricity Generating Installations.—The various installations for the generation of electricity by water power and by steam were kept under observation in consultation with officers of the Electricity Supply Board and the effects of the operation of these installations on fish life monitored.

The Engineers and their Electronic Consultant collaborated with the ESB on the design of an electrical blocking installation to prevent fish entering the cooling water outlet of one of the major thermal power stations. The energising unit developed for the electrified nephrops trawl was successfully adapted for use in salt water to prevent salmon entering this area.

Investigation of Fish Movements. — Salmon smolts migrating down stream in the River Corrib were caught in the trap at Galway and counted. The trapping season started on 14 April and ended on 16 June. 75,100 smolts were trapped and released in 1974 compared with 78,000 in 1973, 45,000 in 1972 and 77,560 in 1971. The screens for the diversion of smolts from the head-race used by the migrating smolts in their passage downstream were not placed in position until 14 April and thus early running smolts escaped the counting installation. Delay in the installation of the screens also permitted kelts which move downstream early in the year to bypass the trap. Efforts are being made to ensure that the diversion screens will be placed in position in the month of March in future years. The maximum number of smolts taken from the trap in one day was 7,500 on 8 May. In addition to the smolts four brown trout and 12 eels were trapped in the installation.

A rock barrier in the Glen River, a tributary of the River Owenea, adjoining the Department's salmon hatchery at Glenties, Co. Donegal, was removed following representations by upstream landowners who feared that the smolt trapping and counting installation on this river

would cause flooding of their lands. The work was carried out by the Office of Public Works in accordance with plans prepared by Fisheries Division. At the same time the opportunity was availed of to make alterations to the river bed in the vicinity of the downstream migrant trap (code-named PET) to improve flow conditions in the river channel which in previous years interfered with the conduct of experiments at this trap.

Electronic Fish Counters.—Existing electronic fish counting installations at the sites listed below were maintained and modernised where necessary. The counts are summarised as follows:—

River	Location	Total Count	Daily Maximum	Date
*Bandon	Bandon	1,708	153	20 October
Bunree	Downhill	954	224	6 October
Blackwater	Clondulane	3,010	98	13 June
†Boyne	Blackcastle	600	25	17 July
‡Corrib	Galway	2,533	695	15 June
Inagh	Ennistymon	404	80	1 August
Liffey	Out of commission for overhauls			

† Closed Nov./Dec. for trapping purposes.

‡ Under renovation until April. It was discovered that the instrument was undercounting due to unauthorised interference with the installation.

* This unit was converted to a single register counter (salmon only) in April and it is possible that there was an undercount of salmon prior to the change.

The Department's Consultant continued his research and development work on wide-gap counting systems and on downstream migrant trapping systems. A wide-gap resistivity counting installation was designed for installation at the ponding weir to be built on the River Feale at Finuge for the North-East Kerry Regional Water Supply Scheme.

Further site trials of the electronic downstream migrant trap system (code-named PET) resulted in its readaptation for the purpose of eel guidance (see page 36). Further development work on the design of an amplifier for the bio-electric salmon counter (code-named DELTA VEE) failed to overcome some of the problems inherent in this concept.

Fish Culture Installations.—During the season no operational difficulties were experienced at the Glencullen salmon-trapping and ova-incubation unit which is operated by the Bangor Board of Fishery Conservators with the assistance of officers from Fisheries Division. A new holding pen subdivided into compartments for cockfish and henfish was constructed on the shores of Carrowmore Lake in which fish netted from the lake were held.

The Salmon hatchery and rearing station at Cong, Co. Mayo, continued to operate successfully under the control of the Galway Board of Conservators. There were further developments in the arrangements that are to be made to augment the supply of water through this installation by the sealing-off of the subterranean channels through which water is by-passing the hatchery unit. As a result of the survey carried out by divers the major seepage zones have been identified and a scheme of works has been drawn up to seal off these areas.

The salmon hatchery at Virginia, Co. Cavan was completed early in 1974 and during the year full use was made of the facilities provided to rear both salmon and brown trout progeny to the under yearling stage.

Details of the output and disposal of ova are set out in Appendix No. 23.

In continuation of the arrangement whereby fishery engineering advice is provided to the Salmon Research Trust of Ireland Incorporated, detailed plans for a new fish screen for the Mill Stream site at the Trust installations were drawn up and tenders sought for its construction.

The rock barrier at the outlet from Lough Feagh, Co. Mayo, was likewise surveyed and a scheme drawn up for its removal in such a manner as not to interfere with the efficacy of the Mill Stream installations. There were consultations with the officers of the Electricity Supply Board in connection with the cage-rearing of salmon in salt-water near Mynish, Carna, Co. Donegal and on the development of cage-rearing units.

A site for the construction of a Rainbow Trout fish farm on the River Lennon, Co. Donegal, was inspected and proposals submitted were examined and commented on.

Eel Fishery Development.—As in former years a number of eel fishery installations were investigated and the owners advised of the necessary improvements. A design for a horizontal eel trap was drawn up for a site at Levitstown on the River Barrow. The trap was built and operated during the 1974 season.

The operation and performance of a privately-built eel-fishing weir at Ballinderry on the River Suir was evaluated and proposals for improvements put forward.

The Inspector and Engineer continued to act as Chairman of the EIFAC ad hoc Working Group on Eel Fishery Developments. A meeting of this Group was held in Dublin in April which was attended by delegates from France, Federal Republic of Germany, Denmark and Netherlands, at which a report was prepared for submission to the European Inland Fisheries Advisory Commission at its biennial meeting held in Aviemore, Scotland, in May.

Application of Electricity to the Inland Fisheries.—Research and development work on the application of electricity to inland fisheries was continued by the Department's Consultant at the field laboratory at the State salmon hatchery at Glenties, Co. Donegal, in association with the Department's engineers.

Reference has already been made under "Arterial Drainage" to the successful operation of the electric barrier at the mouth of the River Deale to exclude spawning salmon from this river while undergoing drainage operations.

The electric barrier at Glencullen, Carrowmore, Co. Mayo, was again operated successfully to permit the capture of adult salmon for the local hatchery. Reference has already been made under "Electronic Fish Counters" to the PET and the DELTA VEE systems. Plans were drawn up for an electronic fish counting installation to be installed at the ponding weir being built at the River Feale at Finuge by means of which a count of the total number of fish passing upstream will be recorded. The site is a difficult one at which to instal a fish counter because the escapement gap will be 12 ft. wide and the whole weir structure will be submerged during periods of medium and high flow in the river. The design envisages confining escapement to the 12 ft. gap adjoining the right bank by barring passage to fish across the rest of the weir by an electric barrier unit. The counting of fish passing through the gap will be carried out by means of strip electrodes as part of a resistivity counting unit. Provision has been made in the installation for its adaptation as a bio-electric counting unit.

Reference has already been made to the adaptation of the energising unit developed for the electrified nephrops trawl, to an electrical blocking installation to prevent salmon from entering a thermal power station cooling water outlet. This unit has also been adapted as an instrument for the large scale killing of salmon reared in saltwater and one such unit has been used commercially outside Ireland. The Department's officers collaborated with officers of the ESB in setting up an experimental eel guiding unit at the Board's eel weir at Killaloe on the River Shannon with the object of boosting the catch efficiency of the eel weir. A multiple output energiser, designed and built by the Department's Consultant, is being supplied to the Electricity Supply Board by the Department and a special experimental electrode array designed by the Electricity Supply Board in consultation with the Department is being supplied by the ESB and installed at its eel weir. It is expected that the installation will be available for experimental use during the eel fishing season in 1975.

River Improvement Schemes. — The comprehensive survey of the spawning activity on the River Feale was continued and improvements were made in the methodology to overcome problems encountered in previous years. The work has revealed serious limitations in the value of redd counts and estimates of salmon numbers arrived at as a result of a single inspection.

Detailed plans for a major fish passage facility on the River Feale

between Finuge Bridge and the water abstraction ponding weir were drawn up for execution by the Kerry Co. Council as part of North-East Kerry Regional Water Supply Scheme.

Works on the improvement of holding ponds and angling facilities on the State-owned stretches of the Glengarriff River were undertaken in conjunction with the Forestry Division of the Department of Lands and substantial stretches of river channel were opened up for angling and recreation.

Detailed plans for a major fish pass installation on the river Deale at Askeaton, Co. Limerick were prepared.

Polluting Effluents.—Proposals for the treatment and discharge of effluents from existing and projected undertakings, particularly those seeking financial support from the State, were examined and commented on in the light of their likely impact on fishery interests. There was a very substantial increase in the number of cases dealt with during the year and substantial progress was made in the drive to have industrial, domestic and agricultural effluents treated in a manner to make them acceptable from the fisheries viewpoint but much work remains to be done.

The operation of a very large number of sand and gravel washing plants throughout the country was made the subject of an intensive study in an effort to evaluate the seriousness of the silt problem arising from such works and to devise means of coping with this problem.

Water Abstraction.—Major water abstraction scheme proposals submitted were investigated. These continue to pose problems to inland fisheries conservation and management. All schemes submitted were carefully investigated by the Division's engineers and recommendations put forward to Local Authorities and their consultants for the mitigation of interference with migration and survival of fish stocks.

A number of these schemes were the subject of public enquiry and evidence given by the Departmental officials resulted in important concessions in the fishery interest. There is a growing tendency for Local Authorities and private abstractors to seek the advice of the engineers at the early planning stage.

One of the Department's Fishery Engineers is a member of the Technical Project Committee set up by the Kerry County Council to advise and plan for the major abstraction scheme proposed for the River Feale in Co. Kerry.

Bye-Laws, Licences, Definitions.—Maps were prepared in connection with various bye-laws, orders and licences and other statutory instruments and specialist advice was supplied to various Boards of Conservators on a wide range of problems including pollution, fish passes, marking of half-mile limits and fishery protection work.

Fish-Counting Liaison Group.—The Inspector and Engineer was

invited to join this group which had been set up by the Water Resources Board to provide a forum for discussion on matters concerned with counting developments, including those not directly involved in the Board's project. Sponsorship of this work has now been assigned to the Water Data Unit of the British Department of the Environment. This invitation was accepted and the Inspector and Engineer (or in his absence one of the Fishery Engineers) attended meetings of this Group held during the year and these were found to be of considerable value to the Department's work on fish counting.

Miscellaneous.—The Inspector and Engineer continued to act as an Advisor to the Inland Fisheries Commission and also as Fishery Consultant to the Salmon Research Trust of Ireland Incorporated. He also continued to act as Departmental representative on the UNESCO Hydrological Decade National Committee for Ireland and on the Committee appointed by the Minister for Defence to make arrangements for the construction of a sail training vessel to replace the "Asgard".

One of the Department's Fishery Engineers attended the seminar on the disposal of animal manures which was held by An Foras Taluntais at Johnstown Castle, Co. Wexford.

FOYLE FISHERIES COMMISSION

The Commission is comprised of two members nominated by the Minister and two members nominated by the Department of Agriculture for Northern Ireland. The post of Chairman rotates each year between senior members of the Commission. During the year under review it was held by the Dublin member.

The Annual Report of the Commission for 1974 gives detailed information on the Commission's activities during the year.

Figures show an improvement in spawning for 1974 — the spawning count for the year was 3,268 compared with only 1,545 in 1973.

The catch of salmon and grilse by commercial engines in 1974 was 78,051 compared with 61,795 in 1973. The rod catch of both salmon and sea trout was 10,788 which was a decrease on the 1973 figure (13,515).

The commercial fishery yielded the Commission a profit of £6,104 which was a considerable decrease on the 1973 profit of £14,326. The Commission received contributions totalling £6,300 in 1974 from this Department and the Northern Ireland Department of Agriculture. At 30 September 1974 there was an accumulated deficit of £43,462 which was cleared by equal contributions from both exchequers in early 1975.

The Accounts for the year ended 30 September 1974 and particulars of the Regulations made by the Commission during 1974 are included as appendices to the Commission's Report.

INLAND FISHERIES TRUST INCORPORATED

The Council of the Trust consists of seven members, three being elected and four being nominated by the Minister. In the year 1974 the nominated members from the Department's staff were the Inspector and Engineer, who acted as Chairman following the death of the nominated Chairman Mr. M. J. Gallagher in May 1974, and an Assistant Principal Officer.

The Annual Report of the Trust for 1974 gives a review of its work during the year. The grant-in-aid paid to the Trust by the Department in the calendar year 1974 amounted to £440,000.

Work continued during the year on the development, improvement and maintenance of trout fisheries on rivers and lakes. 807,000 brown trout consisting of fry, summerlings, fingerlings, yearlings and adults were released into waters to supplement natural spawning. Further work was carried out on spawning and nursery grounds to improve natural spawning. In controlling predators, over 20 tons of pike and 32 tons of perch were removed from trout lakes and rivers. Surveys were made of 34 new waters to assess their suitability for future development as trout or coarse fisheries. Improved facilities for coarse fish anglers were made available at nine centres providing space for an additional 624 anglers. Work was also completed on 29 centres for fishing competitions.

With regard to sea angling, investigations into the location, movements, growth and habits of marine sport fish were continued off the South and South-West coasts. Special investigations were carried out and data collected in the Shannon, Moy, Ilan and Munster Blackwater estuaries.

The Trust continued to identify and remedy the causes of pollution in waters under its control and in an effort to protect Trust lakes prosecutions were instituted at its instigation against persons on whose premises serious causes of pollution were detected.

THE SALMON RESEARCH TRUST OF IRELAND INCORPORATED

The Committee of Management of the Trust consists of seven members, two of whom are nominated by the Minister, three being nominated by the Chairman of Arthur Guinness, Son and Co. Ltd., plus two elected members. The members nominated by the Minister in 1974 were an Assistant Secretary and the Inspector and Scientific Adviser of the Department.

The Annual Report of the Trust for 1974 gives a detailed account of its work during the year. The grant-in-aid paid to the Trust by the Department in the calendar year 1974 amounted to £7,000.

The results of census work by the Trust at their Burrishoole Fishery, Co. Mayo, in regard to upstream and downstream movement of salmon indicated that in 1974 the return of two-sea-winter fish (small spring

and small summer salmon) was of about the same order as in the previous year.

The grilse total of 855 showed a decline to almost half that of 1973. The survival rate from smolts to grilse from the calculated egg deposition to the 2+ smolt stage has been estimated for the 1970 and 1971 brood years at 0.44% and 0.71% respectively. The comparable results for artificial rearing give a survival rate approximately 12 times larger for the 1970 brood year and 60 times larger for the 1969 brood year.

Only 5,479 reared smolts were released in 1973 and for the second year in succession the survival rate of these smolts to the grilse stage was poor averaging only just over 1% both for 1+ and 2+ smolts. This was due to disease among smolts prior to release. A total of 10,200 reared salmon smolts and 1,950 sea trout smolts were released in good condition in 1974. The annually recurring epidemic in the early summer and fungus disease in the winter was less severe during 1974. Warmed water was used for the early-feeding fry stages with good effect on growth.

The sea trout run at 2,929 was the largest recorded since complete counts began in 1969.

Returns from tagged grilse kelts were poor at 7.3% compared with 18.8% in 1973 and the recapture of tagged sea trout kelts was also below average at 30%. The incidence of infection by UDN among salmon kelts was high during January 1974 and the disease reappeared in November and December.

An important section of the report deals with the costs of smolt rearing and these costs are examined both from the aspects of rearing operations carried out by the Trust and also the probable cost involved in establishing a modern rearing station with a capacity of 50,000 smolts per annum.

MANAGEMENT OF STATE FISHERIES

131 State owned fisheries—in the main vested in the Land Commission—were managed by Fisheries Division in 1974. Rents received during the year amounted to £4,471 compared with £4,126 in 1973.

Seventeen of these fisheries which fell due for re-letting were advertised during the year.

INTERNATIONAL AND OTHER CONFERENCES

a. *International Council for the Exploration of the Sea*.—The Department's Inspector and Scientific Adviser and an Inspector of Fisheries attended the 62nd. Statutory meeting of the Council which was held in Copenhagen in October.

b. *European Inland Fishery Advisory Commission*. — A delegation from the Department headed by the Principal Officer of the Inland Fisheries Division attended the Eighth Session of the European Inland Fishery Advisory Commission (E.I.F.A.C.) at Aviemore, Scotland, in

May 1974. A number of delegates from Irish organisations with fishery interests also attended.

The Inspector and Engineer who was a member of the Departmental delegation was re-elected vice-chairman of Sub-Commission No. II.

Prior to the plenary session there was a symposium on methodology for the surveys, monitoring and appraisal of fishery resources in lakes and larger rivers which was attended by two Assistant Inspectors of Fisheries and a Fishery Engineer. A symposium on the major communicable fish diseases and their control in Europe was attended by an Assistant Inspector of Fisheries.

c. Salmon Research Group.—This informal discussion group which operates under the aegis of the British Natural Environmental Research Council held two meetings during the year, one in May and one in November. The Inspector of Fisheries on the Inland side attended both meetings and was elected as a permanent member of the group in November.

d. Freshwater Research Group.—This informal group, which was initiated in 1965, held its 10th. and 11th. meetings in April. The group met in Dublin under the Chairmanship of Dr. Paul Toner of the Water Resources Division of An Foras Forbartha. A wide variety of topics was discussed and it was attended by biologists and engineers from the Department.

e. West European Fish Technologists Association.—During 1974 the Inspector and Engineer attended the meeting of the West European Fish Technologists Association at Nantes, France.

f. I.C.E.S./I.C.N.A.F. joint working party on North Atlantic Salmon met at Charlottenlund, Denmark, in March to discuss the impact of the West Greenland Fishery for salmon on the catches of salmon in home waters (i.e. countries which have good stocks of salmon). Ireland was represented at the working party meeting by the Chief Inspector and Scientific Adviser and by an Inspector of Fisheries.

LEGISLATION

The Fisheries (Amendment) Act, 1974, became law on 30 July, 1974. The effect of the Act is to postpone for a year elections to Boards of Conservators and to give the Minister power to make an Order postponing elections beyond this period if he thinks fit. Particulars of Statutory Instruments relating to inland fisheries made during the year are included in Appendix No. 22.

MICHAEL PAT MURPHY,
Parliamentary Secretary to the
Minister for Agriculture and Fisheries.

2 January, 1976.

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APPENDIX No. 1

Quantity and Value of Sea Fish (excluding Salmon) returned as landed in 1973 and 1974

Kinds of Fish	QUANTITY		VALUE	
	1974	1973	1974	1973
	metric tons	metric tons	£'000	£'000
Sole ...	165	153	166	142
Brill ...	92	78	38	28
Turbot ...	99	92	44	33
Plaice ...	1,356	1,547	336	336
Dabs ...	223	124	18	12
Megrim ...	165	164	16	16
Other Flat Fish ...	308	216	28	19
Ray/Skate ...	1,505	1,319	288	213
Cod ...	3,765	4,556	663	634
Haddock ...	2,411	3,872	268	373
Hake ...	95	111	14	16
Whiting ...	7,369	6,629	513	450
Pollack ...	909	892	88	74
Other Round Fish ...	1,075	619	47	30
Total Demersal ...	19,537	20,372	2,527	2,376
Herrings ...	39,608	38,855	3,950	2,802
Pilchard ...	52	15	1	1
Mackerel ...	8,525	8,314	365	381
Sprats ...	7,314	7,642	139	133
Total Pelagic ...	55,499	54,826	4,455	3,317
TOTAL WET FISH ...	75,036	75,198	6,982	5,693
Lobsters ...	253	258	586	507
Crawfish ...	74	96	234	210
Crabs ...	901	953	88	81
Dublin Bay Prawns ...	1,380	2,151	289	490
Escallops ...	206	138	50	31
Queen Escallops ...	26	267	2	23
Oysters ...	289	407	81	103
Mussels ...	3,465	2,963	56	44
Periwinkles ...	2,797	2,912	301	221
Other Shellfish ...	279	360	67	64
Total Shellfish ...	9,670	10,505	1,754	1,773
TOTAL ALL FISH ...	84,706	85,703	8,736	7,466

APPENDIX No. 2

Comparison of the Average Price per metric ton of various kinds of Sea Fish for the years 1967-1974.

	1967	1968	1969	1970	1971	1972	1973	1974
Sole	£ 428	£ 431	£ 451	£ 509	£ 529	£ 624	£ 931	£ 1,006
Brill	198	192	192	221	240	277	354	411
Turbot	193	197	197	211	228	275	358	444
Plaice	153	142	156	184	184	192	217	247
Dabs	52	49	57	69	71	68	93	81
Megrim	62	56	62	77	66	62	95	94
Ray/Skate	82	86	90	111	121	138	161	191
Cod	71	66	86	97	98	116	139	176
Haddock	73	71	70	74	53	63	96	111
Hake	179	137	137	126	130	125	141	150
Whiting	38	37	43	50	40	49	68	70
Pollack	46	47	46	53	61	64	82	97
Herrings	21	22	23	28	37	44	72	100
Pilchards	8	13	—	—	—	11	36	23
Mackerel	23	22	28	—	38	32	46	43
Sprats	11	8	9	12	11	11	17	19

N.B.—"Average price" as shown in this table represents total value divided by total weight for each kind of fish, year by year. It does not purport to take direct cognizance of any abnormal rise or fall in price attributable to a seasonal glut or shortage of a particular kind of fish.

APPENDIX No. 3

Value of Landings of Sea Fish (excluding Salmon) at ports at which the value of such landings exceeded £25,000 in 1974.

Port	Total Value	Demersal	Pelagic	Shellfish
	£'000	£'000	£'000	£'000
1 Killybegs ...	1,588	399	1,177	12
2 Dunmore East ...	1,249	57	1,177	15
3 Howth ...	765	441	293	31
4 Galway ...	656	184	428	44
5 Cobh ...	561	10	545	6
6 Castletownbere ...	423	86	306	31
7 Skerries ...	357	205	8	144
8 Dingle ...	287	152	85	50
9 Kilmore Quay ...	281	197	13	71
10 Burtonport ...	176	79	81	16
11 Greencastle ...	146	138	4	4
12 Mornington ...	141	7	129	5
13 Valentia ...	140	49	27	64
14 Fenit ...	139	5	1	133
15 Clogherhead ...	132	88	26	18
16 Schull ...	79	31	5	43
17 Union Hall ...	79	28	1	50
18 Helvick ...	72	57	1	14
19 Achill ...	65	34	—	31
20 Dun Laoghaire ...	59	47	2	10
21 Bantry ...	57	—	39	18
22 Duncannon ...	54	49	3	2
23 Rosmore/ Roscahill ...	53	—	—	53
24 Blacksod ...	38	1	5	32
25 Kinsale ...	36	20	—	16
26 Carraroe/ Rossaveel ...	36	3	19	14
27 Arklow ...	36	32	4	—
28 Castlegregory ...	36	—	1	35
29 Cleggan ...	31	4	3	24
30 Baltimore ...	30	—	—	30
31 Ballinskelligs ...	30	21	4	5
32 Balbriggan ...	29	15	—	14
33 Wexford ...	27	6	—	21
34 Lettermore/ Lettermullan ...	26	—	—	26
35 Aran Islands ...	25	—	—	25

APPENDIX No. 4

Imports and Exports of Fish and Fish Preparations in 1974 (as compared with 1973).

	Quantity		Value	
	1974	1973	1974	1973
I.—IMPORTS :	metric tons	metric tons	£'000	£'000
Fish, fresh, chilled or frozen	1,453	1,304	261	267
Fish, salted, dried or smoked	1,569	1,622	685	518
Shellfish, fresh, salted or dried	204	637	271	374
Prepared or preserved fish	2,313	2,136	2,052	1,409
Prepared or preserved shellfish	52	33	79	48
TOTALS	5,591	5,732	3,348	2,616
II.—EXPORTS :				
Fish, fresh, chilled or frozen	24,816	24,885	6,858	5,866
Fish, salted, dried or smoked	12,609	17,938	2,264	2,078
Shellfish, fresh, salted or dried	5,610	5,530	2,336	2,437
Fish and shellfish prepared or preserved (including tinned)	2,705	814	843	252
TOTALS	45,740	49,167	12,301	10,633

APPENDIX No. 5

HERRING FISHING, 1974

Ports at which more than 50 metric tons were landed	Total Quantity	Value
	metric tons	£'000
1. Killybegs	11,751	1,108
2. Dunmore East	9,715	1,170
3. Cobh	4,732	545
4. Galway	4,152	420
5. Howth	3,927	283
6. Castletownbere	1,091	111
7. Burtonport	813	68
8. Dingle	647	52
9. Bantry	569	38
10. Clogherhead	401	25
11. Mornington	359	8
12. Carraroe/Rossaveel	229	19
13. Teelin	173	16
14. Valentia Harbour	164	12
15. Kilmore Quay	122	12
16. Wicklow	91	8
17. Skerries	85	5
18. Rosslare	75	6
19. Kincasslagh	71	5
20. Kenmare	59	5

APPENDIX No. 6

MACKEREL FISHING, 1974

Ports at which more than 50 metric tons were landed	Total Quantity	Value
	metric tons	£'000
1. Castletownbere	4,225	194
2. Killybegs	1,644	45
3. Dingle	623	33
4. Burtonport	422	13
5. Valentia	273	15
6. Galway	178	8
7. Howth	166	9
8. Dunmore East	97	5
9. Schull	93	5
10. Skerries	68	4

APPENDIX No. 7

REGIONAL DISTRIBUTION AND CLASSIFICATION OF FISHING CRAFT AND OF PERSONNEL ENGAGED IN FISHING IN 1974

Coast	How Engaged	Men	Total Vessels	MOTOR VESSELS						Boats propelled by outboard engines, sails or oars	
				Gross Tons						18' Keel and upwards	Less than 18' Keel
				Over 75	51—75	26—50	16—25	11—15	10 and under		
EAST (Omeath to Carnsore Point)	Solely	566	170	13	33	51	7	—	31	33	2
	Partially	300	112	—	—	—	—	—	18	69	25
	Laid-up	—	21	2	7	7	4	—	1	—	—
	TOTALS	866	303	15	40	58	11	—	50	102	27
SOUTH (Carnsore Point to Loop Head)	Solely	802	365	16	34	31	11	15	182	76	—
	Partially	1,089	385	—	—	—	—	—	42	249	94
	Laid-up	—	9	3	—	3	3	—	—	—	—
	TOTALS	1,891	759	19	34	34	14	15	224	325	94
WEST (Loop Head to Erris Head)	Solely	309	386	—	4	18	5	6	175	153	25
	Partially	1,303	222	—	—	—	—	—	19	92	111
	Laid-up	—	1	—	—	—	1	—	—	—	—
	TOTALS	1,612	609	—	4	18	6	6	194	245	136
NORTH (Erris Head to Moville)	Solely	833	462	19	19	50	7	18	214	130	5
	Partially	1,494	277	—	—	—	—	—	82	115	80
	Laid-up	—	10	2	1	2	1	—	2	2	—
	TOTALS	2,327	749	21	20	52	8	18	298	247	85
TOTALS (All Coasts)	Solely	2,510	1,383	48	90	150	30	39	602	392	32
	Partially	4,186	996	—	—	—	—	—	161	525	310
	Laid-up	—	41	7	8	12	9	—	3	2	—
	TOTALS	6,696	2,420	55	98	162	39	39	766	919	342

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APPENDIX No. 8

TRAWLING AND SEINING, 1974

Port or Locality	Number of men engaged	Number of boats engaged	Tonnage of Motor Boats			Fishing Period
			Not exceeding 10 tons	Over 10 tons	Over 15 tons	
Clopharhead	40	10	—	—	10	All year.
Balbigan	19	5	—	—	5	All year.
Skeries	98	23	—	—	23	All year.
Howth	214	42	—	—	42	All year.
Dublin	44	10	—	—	8	All year.
Dun Laoghaire	44	10	—	—	2	All year.
Wicklow	7	2	—	—	—	All year.
Arklow	43	11	—	—	11	All year.
Courtown	6	3	—	—	—	Summer
Wexford	10	3	—	—	3	All year.
Rosslare	4	1	—	—	—	All year.
Kilmore Quay	65	13	—	—	13	All year.
Duncannon	30	6	—	—	6	All year.
Passage East	39	2	—	—	—	Autumn and Winter
Dunmore East	9	2	—	—	—	All year.
Helvick	15	2	—	—	—	Autumn and Winter
Youghal	10	5	—	—	—	Spring and Autumn
Ballycotton	10	3	—	—	—	All year.
Cobh	8	3	—	—	—	All year.
Kinsale	10	1	—	—	—	All year.
Union Hall	11	3	—	—	—	All year.
Rahen	19	5	—	—	—	All year.
Baltimore	8	1	—	—	—	All year.
Cape Clear	4	1	—	—	—	All year.
Schull	34	6	—	—	—	All year.
Castletownbere	66	10	—	—	—	All year.
Ballinskelligs	5	1	—	—	—	All year.
Valentia	39	7	—	—	—	All year.
Cahirveen and Portmagee	89	14	—	—	—	All year.
Dingle	14	2	—	—	—	Winter.
Fent	3	1	—	—	—	All year.
Kilbaha	3	1	—	—	—	All year.
Carrigrohilly	3	1	—	—	—	All year.
Seafeld/Quilly	3	1	—	—	—	All year.
Liscannor	2	1	—	—	—	Autumn and Winter
Galway/Aran Islands	71	15	—	—	—	All year.
Rosaveel	10	2	—	—	—	All year.
Cleggan	7	2	—	—	—	All year.
Inishboffin	24	6	—	—	—	All year.
Mulrany/Achill	4	1	—	—	—	All year.
Belmullet/Blackrod	9	2	—	—	—	All year.
Killala	5	1	—	—	—	All year.
Sligo	4	1	—	—	—	All year.
Mullaghmore	265	46	—	—	—	All year.
Killybegs	95	19	—	—	—	All year.
Burtonport	8	2	—	—	—	All year.
Bunbeg	8	2	—	—	—	All year.
Magheraroarty	120	25	—	—	—	Spring and Autumn
Greencastle	120	25	—	—	—	All year.
TOTALS	1,611	335	21	11	303	

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APPENDIX No. 9A.

STATEMENT OF ACCOUNT IN RESPECT OF REPAYABLE
ADVANCES

Advances of £7,978,563 made to An Bord Iascaigh Mhara during the period of twenty-three years to 31 December, 1974 for provision of boats and gear and other purposes:—

Repayments of principal:

	£
made to 31 March 1973 ...	889,499
made during year ended 31 March 1974 ...	86,989
made during period 1 April to 31 December 1974 ...	100,353
Principal written off to 31 December 1974 ...	993,876
	<hr/>
	2,070,717
	<hr/>
Balance of principal outstanding at 31 December 1974 ...	5,907,846
	<hr/>

APPENDIX No. 9B

EXPENDITURE ON FISHERIES FOR THE YEAR 1 APRIL 1973
TO 31 MARCH 1974 AND FOR THE NINE MONTH PERIOD
ENDED 31 DECEMBER 1974

(all figures rounded to nearest £1,000)

1. SEA FISHERIES By (a) Department of Agriculture and Fish- eries (Fisheries Division)	1 April 1973 to 31 March 1974	1 April 1974 to 31 Dec. 1974
	£	£
(i) Development	67,000	49,000
(ii) Fishery School	79,000	21,000
(iii) Fishery Harbours and other Marine Works	470,000	555,000
(b) An Bord Iascaigh Mhara		
(i) Administration and Current De- velopment (grant-in-aid) ...	750,000	670,000
(ii) Capital Development (grant-in-aid)	698,000	848,000
(iii) Repayable Advances* (mainly for boats and gear) ...	1,132,000	1,348,000
(iv) Repayment of Advances written off	80,000	70,000
(c) Roinn na Gaeltachta Grants for marine works	177,000	377,000
2. INLAND FISHERIES		
By (a) Department of Agriculture and Fish- eries (Fisheries Division) Develop- ment	363,000	269,000
(b) The Inland Fisheries Trust Incorporated (grant-in-aid)	370,000	380,000
(c) The Salmon Research Trust of Ireland Incorporated (grant-in-aid) ...	6,000	3,000
3. DEPARTMENT OF AGRICULTURE AND FISHERIES		
Salaries, Wages and other administrative Expenses for Fisheries Division ...	298,000	251,000
Totals ...	4,509,000	4,841,000

*A Statement of Account in respect of Repayable Advances is given in Appendix 9A.

APPENDIX No. 10

COASTAL EXTENT OF FISHERY DISTRICTS AND NAMES
OF THE PRINCIPAL RIVERS IN EACH DISTRICT

District	Coastal Extent of District	Principal Rivers
No. 1 Dublin	Most easterly point on Red Island, Skerries, to Wicklow Head.	Liffey Vartry.
No. 2 Wexford	Wicklow Head to Kiln Bay, east of Bannow Bay, Co. Wexford.	Slaney Avoca.
No. 3 Waterford	Kiln Bay, east of Bannow Bay, to Helvick Head, Co. Waterford.	Suir Barrow Nore.
No. 4 Lismore	Helvick Head to Ballycotton Pier, Co. Cork.	Blackwater, Funcheon, Bride, Awbeg.
No. 5 Cork	Ballycotton Pier to Crow Head, Co. Cork.	Lee, Owenboy, Bandon, Argideen, Ilen, Mealagh, Owvane, Coomhola, Glengarrif, Adrigole.
No. 7 Kerry	Crow Head, Co. Cork, to Kerry Head, Co. Kerry.	Roughty, Sheen, Finnihy, Blackwater, Sneem, Laune, Flesk, Maine, Caragh, Currane, Cummeragh, Inny.
No. 8 Limerick	Kerry Head, Co. Kerry, to Hag's Head, Co. Clare.	Shannon, Deel, Fergus, Mulcair, Little and Upper Brosna, Inny, Maigue, Feale.
No. 9 ¹ Galway	Hag's Head to the sea point of the boundary between the townlands of Keeraunagark South and Banraghbaun South, Co. Galway.	Corrib, Claregalway.
No. 9 ² Connemara	The sea point of the boundary between the townlands of Keeraunagark South and Banraghbaun South, Co. Galway, to Slyne Head, Co. Galway.	Ballinahinch, Recess, Cashla, Owengowla, Invermore, Inverbeg, Screebe, Furnace.
No. 10 ¹ Ballinakill	Slyne Head to Pigeon Point, Westport Bay, Co. Mayo.	Culfin, Errif, Bundo- ragha, Dawros, Carrowniskey, Bun- owen (Louisburgh).
No. 10 ² Bangor	Pigeon Point to Benwee Head, Co. Mayo.	Newport, Burrishoole, Owenduff, Owengarve, Owenmore, Glenamoy.
No. 11 Ballina	Benwee Head to Coonamore Point, Co. Sligo.	Moy, Cloonaghmore (Palmerston), Easkey.

District	Coastal Extent of District	Principal Rivers
No. 12 Sligo	Coonamore Point to Carrickgarve, Co. Sligo.	Ballisodare, Garavogue (Sligo), Bonet, Drumcliff.
No. 13 Ballyshannon	Carrickgarve to Rossan Point, Co. Donegal.	Erne, Bundrowes, Bunduff, Eske, Eaney Water, Oily, Glen.
No. 14 ¹ Letterkenny	Rossan Point to Malin Head, Co. Donegal.	Owenea, Gweebarra, Gweedore (Crolly), Clady, Lackagh, Lennon, Crana.
No. 17 ² Dundalk	Carlingford Lough to Clogherhead, Co. Louth.	Fane, Dee, Glyde.
No. 17 ¹ Drogheda	Clogherhead to the most easterly point on Red Island, Skerries, Co. Dublin.	Boyne, Blackwater, Deel.

Note—The area comprised in the former No. 14² or Moville District was, by the Foyle Fisheries Act, 1952, incorporated in the Foyle Area which is administered by the Foyle Fisheries Commission.

APPENDIX No. 11

Quantity and Value of all Salmon and Sea Trout taken in 1972, 1973 and 1974 by Instruments of Capture.

SALMON

	1974	1973	1972	1974	1973	1972
Instruments	kgs.	kgs.	kgs.	£	£	£
Total for all engines	1,992,277	1,812,189	1,673,806	2,332,708	2,297,236	2,140,266
Total for rod and line	58,529	93,625	85,157	68,420	118,685	108,889
Total for drift nets	1,440,306	1,191,025	1,064,606	1,685,993	1,509,812	1,361,292
Total for draft nets	390,677	414,063	408,193	457,894	524,890	521,949
Total for stake nets, weirs, etc.	102,765	113,476	115,850	120,401	143,849	148,136

SEA TROUT

	1974	1973	1972	1974	1973	1972
Instruments	kgs.	kgs.	kgs.	£	£	£
Total for all engines	77,187	33,246	32,515	68,066	35,180	35,842
Total for rod and line	41,602	16,152	18,397	36,686	17,091	20,280
Total for drift nets	7,804	6,641	2,324	6,882	7,028	2,561
Total for draft nets	27,226	10,453	11,221	24,009	11,061	12,369
Total for stake nets, weirs, etc.	555	—	573	489	—	632

APPENDIX No. 12

Quantity and Value of Salmon taken in 1972, 1973 and 1974 by Fishery Districts.

Fishery District	*	Quantity			Value		
		1974 kgs.	1973 kgs.	1972 kgs.	1974 £	1973 £	1972 £
Dublin	R	208	1,054	1,808	248	1,336	2,313
	N	2,330	1,709	1,610	2,765	2,166	2,059
Wexford	R	1,307	2,083	1,827	1,556	2,641	2,336
	N	5,778	7,287	7,881	6,751	9,237	10,077
Waterford	R	11,129	11,590	11,986	13,004	14,692	15,327
	N	169,351	257,934	267,997	197,879	326,973	342,683
Lismore	R	3,631	2,378	3,583	4,242	3,015	4,581
	N	116,698	117,464	159,584	140,525	148,904	204,057
Cork	R	4,633	3,052	4,299	5,413	3,869	5,497
	N	186,639	160,191	161,835	218,078	203,067	206,935
Kerry	R	4,638	9,006	6,540	5,420	11,416	8,363
	N	59,854	79,439	98,237	70,154	100,702	125,614
Limerick	R	7,884	15,991	12,987	9,212	20,271	16,606
	N	162,778	199,581	132,840	190,198	253,000	169,859
Galway	R	1,241	3,005	3,751	1,450	3,809	4,797
	N	36,139	44,544	32,611	42,226	56,467	41,699
Connemara	R	2,547	1,935	1,804	2,976	2,454	2,307
	N	11,450	13,214	13,613	13,378	16,751	17,407
Ballinakill	R	2,109	3,699	1,736	2,464	4,689	2,220
	N	8,777	18,059	15,923	10,300	22,892	20,361
Bangor	R	3,249	6,247	5,381	3,796	7,919	6,881
	N	157,857	101,870	46,032	184,451	129,136	58,861
Ballina	R	5,553	16,691	15,290	6,489	21,158	19,551
	N	392,281	296,779	255,711	458,687	376,214	326,973
Sligo	R	958	2,456	2,074	1,119	3,113	2,652
	N	21,759	18,597	15,080	25,424	23,574	19,282
Ballyshannon	R	2,017	1,630	1,303	2,357	2,067	1,666
	N	92,360	87,069	70,010	107,918	110,374	89,520
Letterkenny	R	4,390	8,457	5,864	5,130	10,721	7,498
	N	476,321	268,326	255,061	556,557	340,146	362,142
Dundalk	R	723	1,013	968	845	1,284	1,237
	N	17,046	23,511	21,686	19,918	29,803	27,730
Drogheda	R	2,310	3,338	3,955	2,699	4,231	5,057
	N	16,332	22,991	32,939	19,079	29,144	42,118
TOTALS	...	1,992,277	1,812,190	1,673,806	2,332,708	2,297,235	2,140,266

* R indicates capture by means of single rod and line;
N by means of nets, weirs, etc.

APPENDIX No. 13

Quantity and Value of Sea Trout taken in 1972, 1973 and 1974 by Fishery Districts.

Fishery District	*	Quantity			Value		
		1974 kgs.	1973 kgs.	1972 kgs.	1974 £	1973 £	1972 £
Dublin	R	1,541	263	841	1,359	278	927
	N	3,736	4,452	2,853	3,295	4,712	3,144
Wexford	R	1,310	724	547	1,156	766	603
	N	2,167	1,780	1,659	1,911	1,884	1,829
Waterford	R	1,014	651	283	894	689	312
	N	206	41	109	182	44	121
Lismore	R	386	203	397	341	215	438
	N	1,696	2,248	399	1,496	2,379	440
Cork	R	2,224	1,390	1,596	1,961	1,471	1,759
	N	801	1,358	403	706	1,437	444
Kerry	R	3,993	1,702	1,762	3,521	1,801	1,943
	N	1,037	271	537	914	287	592
Limerick	R	7,816	1,804	1,779	6,893	1,909	1,961
	N	16,380	3,958	3,365	14,444	4,188	3,709
Galway	R	953	686	288	840	726	318
	N	1,953	15	474	1,722	17	523
Connemara	R	5,366	2,268	3,268	4,732	2,400	3,602
	N	637	343	—	562	363	—
Ballinakill	R	2,586	590	635	2,281	624	700
	N	1,048	178	64	924	189	71
Bangor	R	4,251	1,294	2,807	3,749	1,369	3,094
	N	949	272	1,285	837	288	1,416
Ballina	R	1,952	1,101	931	1,721	1,165	1,026
	N	1,259	177	28	1,110	188	31
Sligo	R	382	227	145	337	240	160
	N	163	15	55	144	15	61
Ballyshannon	R	679	159	153	599	168	169
	N	925	665	384	816	703	423
Letterkenny	R	4,062	616	924	3,582	652	1,018
	N	737	981	972	650	1,038	1,071
Dundalk	R	747	469	1,305	658	495	1,438
	N	863	338	340	761	358	375
Drogheda	R	2,338	2,005	736	2,062	2,122	812
	N	1,028	—	1,191	906	—	1,312
TOTALS	...	77,185	33,244	32,515	68,066	35,180	35,842

* R indicates capture by means of single rod and line;
N by means of nets, weirs, etc.

APPENDIX No. 14

Quantity and Value of Eels taken in 1972, 1973 and 1974 by Fishery Districts.

Fishery District	Quantity			Value		
	1974 kgs.	1973 kgs.	1972 kgs.	1974 £	1973 £	1972 £
Wexford ...	—	—	13,236	—	—	11,672
Waterford ...	—	2,272	674	—	3,255	594
Limerick ...	39,200	40,232	8,038	45,803	57,653	7,088
Galway ...	18,435	34,247	24,139	21,540	49,076	21,287
Bangor ...	—	—	582	—	—	513
Ballina ...	2,195	152	1,066	2,565	218	940
Sligo ...	119	4,436	204	138	6,357	180
Ballyshannon ...	3,115	6,100	1,529	3,640	8,741	1,348
Letterkenny ...	—	227	—	—	325	—
Dundalk ...	386	1,301	51	450	1,864	45
Drogheda ...	3,856	1,405	509	4,505	2,013	449
TOTALS ...	67,306	90,372	50,028	78,641	129,502	44,116

Note—The catch figures set out above are based on returns which are not complete. This explains any apparent inconsistency between the figures and the official export figures in any particular year.

APPENDIX No. 15

Total Quantity and Value of Salmon, Sea Trout and Eels taken by all Engines in 1972, 1973 and 1974 by Fishery Districts.

Fishery District	Total Weight for District			Total Value for District		
	1974 kgs.	1973 kgs.	1972 kgs.	1974 £	1973 £	1972 £
Dublin ...	7,815	7,478	7,112	7,667	8,492	8,443
Wexford ...	10,562	11,874	25,150	11,374	14,528	26,517
Waterford ...	181,701	272,488	281,050	211,959	359,612	359,037
Lismore ...	122,411	122,294	163,963	146,604	154,513	209,516
Cork ...	194,296	165,990	168,132	226,158	209,844	214,635
Kerry ...	69,522	90,419	107,077	80,009	114,206	136,512
Limerick ...	234,058	261,566	159,009	266,550	337,021	199,223
Galway ...	58,721	82,498	61,263	67,778	110,095	68,624
Connemara ...	20,001	17,760	18,685	21,648	21,968	23,316
Ballinakill ...	14,520	22,525	18,359	15,969	28,394	23,352
Bangor ...	166,306	109,683	56,087	192,833	138,712	70,765
Ballina ...	403,240	314,901	273,026	470,572	398,943	348,521
Sligo ...	23,380	25,730	17,557	27,162	33,293	22,335
Ballyshannon	99,096	95,622	73,379	115,330	122,053	93,126
Letterkenny ...	485,511	278,607	262,820	565,919	352,876	335,729
Dundalk ...	19,765	26,632	24,349	22,632	33,804	30,825
Drogheda ...	25,863	28,334	39,330	29,251	37,510	49,748
TOTALS ...	2,136,768	1,934,401	1,756,348	2,479,415	2,475,864	2,220,224

APPENDIX No. 16

Number, Quantity and Value of Salmon taken by Single Rod and Line
in 1972, 1973 and 1974 by Fishery Districts.

Fishery District	No. of Fish			Quantity			Value		
	1974	1973	1972	1974 kgs.	1973 kgs.	1972 kgs.	1974 £	1973 £	1972 £
Dublin ...	73	260	409	208	1,054	1,808	248	1,336	2,313
Wexford ...	318	507	401	1,307	2,083	1,827	1,556	2,641	2,336
Waterford ...	2,572	2,934	3,154	11,129	11,590	11,986	13,004	14,692	15,327
Lismore ...	1,092	752	991	3,631	2,378	3,583	4,242	3,015	4,581
Cork ...	1,277	877	1,081	4,633	3,052	4,299	5,413	3,869	5,497
Kerry ...	1,328	2,593	1,670	4,638	9,006	6,540	5,420	11,416	8,363
Limerick ...	2,381	3,930	3,770	7,884	15,991	12,987	9,212	20,271	16,606
Galway ...	360	832	1,034	1,241	3,005	3,751	1,450	3,809	4,797
Connemara ...	851	608	550	2,547	1,935	1,804	2,976	2,453	2,307
Ballinakill ...	584	923	638	2,109	3,699	1,736	2,464	4,689	2,220
Bangor ...	940	1,703	1,662	3,249	6,247	5,381	3,796	7,919	6,881
Ballina ...	1,739	5,062	4,862	5,553	16,691	15,290	6,489	21,158	19,551
Sligo ...	278	670	618	958	2,456	2,074	1,119	3,113	2,652
Ballyshannon	539	446	346	2,017	1,630	1,303	2,357	2,067	1,666
Letterkenny ...	1,335	2,412	1,607	4,390	8,457	5,864	5,130	10,721	7,498
Dundalk ...	165	225	203	723	1,013	968	845	1,284	1,237
Drogheda ...	476	690	752	2,310	3,338	3,955	2,699	4,231	5,057
TOTALS ...	16,308	25,424	23,748	58,527	93,625	85,156	68,420	118,684	108,889

APPENDIX No. 17

Number, Quantity and Value of Sea Trout taken by Single Rod and Line in 1972, 1973 and 1974 by Fishery Districts.

Fishery District	No. of Fish			Quantity			Value		
	1974	1973	1972	1974 kgs.	1973 kgs.	1972 kgs.	1974 £	1973 £	1972 £
Dublin ...	3,200	422	2,020	1,541	263	841	1,359	278	927
Wexford ...	3,782	1,898	1,629	1,310	724	547	1,156	766	603
Waterford ...	1,532	1,420	560	1,014	651	283	894	689	312
Lismore ...	769	477	765	386	203	397	341	215	438
Cork ...	3,259	3,161	4,409	2,224	1,390	1,596	1,961	1,471	1,759
Kerry ...	5,709	3,396	3,158	3,993	1,702	1,740	3,521	1,801	1,943
Limerick ...	15,776	4,657	4,022	7,816	1,804	1,779	6,893	1,909	1,961
Galway ...	2,402	1,781	704	953	686	288	840	726	318
Connemara ...	10,753	3,413	5,232	5,366	2,268	3,268	4,732	2,400	3,602
Ballinakill ...	3,527	1,000	1,868	2,586	590	635	2,281	624	700
Bangor ...	8,506	3,151	3,571	4,251	1,294	2,807	3,749	1,369	3,094
Ballina ...	3,560	2,189	1,631	1,952	1,101	931	1,721	1,165	1,026
Sligo ...	750	425	189	382	227	145	337	240	160
Ballyshannon ...	1,362	300	283	679	159	153	599	168	169
Letterkenny ...	7,450	1,386	2,310	4,062	616	924	3,582	652	1,018
Dundalk ...	1,372	1,110	2,586	747	468	1,305	658	495	1,438
Drogheda ...	4,302	2,512	1,750	2,338	2,005	736	2,062	2,122	812
TOTALS ...	78,011	32,698	36,687	41,600	16,151	18,375	36,686	17,091	20,280

APPENDIX No. 18
PARTICULARS OF RECEIPTS AND EXPENDITURE BY BOARDS OF CONSERVATORS
FOR THE YEAR ENDED 30 SEPTEMBER, 1974.

Fishery District	Opening Balance	RECEIPTS					EXPENDITURE					Closing Balance
		Licence Duty	Fishery Rate	Grant from Department	Misc. Receipts	Total Receipts	Salaries	Water Keepers	Legal Costs	Traveling and Misc.	Total Expenditure	
	£	£	£	£	£	£	£	£	£	£	£	£
Dundalk	+ 872	952	761	10,000	131	11,844	1,861	5,325	162	2,838	10,186	+ 2,530
Drogheda	- 84	1,774	315	9,000	164	11,253	2,092	8,257	120	2,914	13,383	- 2,214
Dublin	+ 829	2,147	467	8,000	655	11,269	2,786	4,546	325	4,206	11,863	+ 235
Wexford	+ 707	1,813	3,267	6,000	111	11,191	2,189	5,700	195	2,943	11,027	+ 871
Waterford	- 5308	3,923	2,969	29,500	4,989	41,381	4,341	22,153	1,572	12,982	41,048	- 4,975
Lismore	- 515	1,489	10,153	14,000	415	26,057	2,772	15,563	833	8,065	27,233	- 1,691
Cork	- 2,489	3,249	1,585	22,000	2,473	29,307	2,026	16,410	—	7,987	26,223	+ 395
Kerry	- 1,155	4,038	7,855	18,330	1,608	31,831	1,784	19,501	504	10,445	32,234	+ 1,558
Limerick	+ 251	7,025	8,183	20,000	1,455	36,663	5,090	25,006	1,311	12,135	43,542	- 6,628
Galway	+ 7,076	1,423	8,186	4,000	5,641	19,250	2,113	8,187	2,130	7,571	20,001	+ 6,325
Connemara	- 854	880	5,653	7,000	136	13,669	1,486	5,661	6	1,910	9,063	+ 3,752
Ballinakill	- 420	1,045	3,038	9,000	87	13,170	1,732	5,408	—	4,952	12,092	+ 658
Bangor	- 84	1,705	2,787	9,000	1,119	14,611	1,666	9,340	—	2,611	13,617	+ 910
Ballina	+ 280	2,633	8,818	8,075	749	20,275	2,070	11,150	—	7,425	20,645	+ 90
Sligo	- 40	760	1,372	8,000	136	10,268	1,898	4,381	8	5,023	11,310	- 1,082
Ballyshannon	+ 874	1,290	1,061	11,570	5,536	19,457	2,239	10,617	—	6,516	19,372	+ 959
Letterkenny	- 4,969	4,946	6,262	17,000	1,622	29,830	1,517	16,861	163	7,395	25,936	- 1,075
TOTALS	- 5,029	41,092	72,732	210,475	27,027	351,326	39,662	194,066	7,329	107,918	348,975	- 2,678

APPENDIX No. 19
PARTICULARS OF LICENCES ISSUED BY BOARDS OF CONSERVATORS FOR THE YEAR 1974

Fishery District	Annual (all districts)	Annual (district of issue)	Late Season (all districts)	Twenty-one day (all districts)	Seven day (all districts)	Late season (district of issue)	Foyle Area (one district)	Foyle Area (all districts)	Special Local Licences (Tidal Waters)		Draft net	Drift net	Pole net	Bag net	Stake net	Head Weir	Box or Crib	Loop net	Snap net	Gap, Eye or Basket for eels	Long line for eels	Oyster Dredge	Eel Trap
									Rod	Net													
Dundalk	72	75	7	—	3	74	5	8	—	—	52	—	—	—	—	—	—	—	—	—	—	—	10
Drogheda	207	97	33	—	26	121	—	13	—	—	61	—	—	—	—	—	—	—	—	—	2	—	—
Dublin	430	27	45	—	48	16	—	—	—	—	11	—	—	—	—	—	—	—	—	—	—	—	—
Wexford	97	277	—	—	39	117	—	—	—	—	70	—	—	—	—	—	—	—	—	—	—	—	—
Waterford	187	629	2	—	40	44	—	—	—	—	10	—	—	—	—	—	—	—	—	—	—	—	—
Lismore	129	130	11	—	115	—	—	—	—	—	7	—	—	—	—	—	—	—	—	—	—	—	—
Cork	273	255	15	—	211	121	—	—	—	—	47	—	—	—	—	—	—	—	—	—	—	—	—
Kerry	207	293	15	—	1,026	196	—	—	—	—	82	—	—	—	—	—	—	—	—	—	—	—	—
Imrick	351	1,089	23	—	273	371	—	—	—	—	122	—	—	—	—	—	—	—	—	—	—	—	—
Galway	96	39	61	—	184	34	—	—	—	—	11	—	—	—	—	—	—	—	—	—	—	—	—
Connemara	21	23	2	—	357	127	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Ballinakill	43	28	22	—	403	111	—	—	—	—	20	—	—	—	—	—	—	—	—	—	—	—	—
Bangor	68	41	31	—	260	93	—	—	—	—	13	—	—	—	—	—	—	—	—	—	—	—	—
Ballina	97	304	21	—	740	52	—	—	—	—	10	—	—	—	—	—	—	—	—	—	—	—	—
Sligo	72	92	21	—	30	19	—	—	—	—	4	—	—	—	—	—	—	—	—	—	—	—	—
Ballyshannon	83	75	19	—	83	36	—	—	—	—	99	—	—	—	—	—	—	—	—	—	—	—	—
Letterkenny	136	464	50	—	357	213	—	—	—	—	62	—	—	—	—	—	—	—	—	—	—	—	—
TOTALS	2,569	3,938	378	20	4,195	1,745	45	37	24	39	681	1048	—	6	9	1	31	31	142	152	37	111	14

65

APPENDIX No. 20

Licence Duties Payable on Fishing Engines.

	£
On each Salmon Rod—Annual (valid all districts) ...	4.00
Do. Salmon Rod—Late Season (valid all districts) ...	3.00
Do. Salmon Rod—Twenty-one day (valid all districts) ...	3.00
Do. Salmon Rod—Seven day (valid all districts) ...	1.00
Do. Salmon Rod—Annual (valid district of issue only) ...	3.00
Do. Salmon Rod—Late Season (valid district of issue only) ...	2.00
Do. Salmon Rod—Foyle area extension (valid all districts) ...	2.50
Do. Salmon Rod—Foyle area extension (valid district of issue only) ...	1.50
On each Draft net ...	4.00
Do. Drift net ...	3.00
Do. Snap net ...	2.50
Do. Bag net ...	10.00
Do. Stake net ...	30.00
Do. Head Weir ...	6.00
Do. Box or Crib ...	10.00
Do. Pole net ...	2.00
Do. Loop net ...	0.50
Do. Gap, Eye, Basket or Coghill Net for Eels ...	2.00
Do. Long line for Eels ...	2.00
Do. Oyster fishing engine ...	2.00

LICENCE DUTIES PAYABLE ON FISHING ENGINES OTHER THAN THOSE MENTIONED ABOVE.

Fishery District	Fyke Net (provisional rates)	Eel Trap	Special Local Licences	
			Rod	Draft Net
	£	£	£	£
1. Dublin ...	0.25	—	—	—
2. Wexford ...	0.25	2.00	—	—
3. Waterford ...	0.25	—	—	—
7. Kerry ...	0.25	—	—	—
91. Galway ...	2.00	2.00	—	—
102. Bangor ...	—	—	\$3.00	\$25.00
13. Ballyshannon ...	—	—	—	*40.00
141. Letterkenny ...	—	—	—	†20.00
171. Drogheda ...	—	2.00	‡3.00	†12.50
172. Dundalk ...	—	2.00	—	—

† River Lackagh Tidal Waters.

* River Erne Tidal Waters.

† River Owenea Tidal Waters.

§ Owenmore/Owenduff Tidal Waters.

APPENDIX No. 21

PARTICULARS OF PUBLIC INQUIRIES HELD DURING 1974

None

APPENDIX No. 22

ABSTRACT OF STATUTORY INSTRUMENTS MADE IN 1974

GENERAL

- (a) Celtic Sea (Prohibition on Herring Fishing) Bye-Law No. 570, 1974 dated 28 May 1974,
Prohibiting fishing for herring by trawl in the Celtic Sea during certain periods.
- (b) Salmon Export Levy (Revocation) Order 1974 (S.I. No. 273 of 1974) dated 11 September 1974,
Revoking the Salmon Export Levy Order, 1957 (S.I. No. 115 of 1957) and the Salmon Export Levy Regulations, 1957 (S.I. No. 116 of 1957).
- (c) Irish Sea (Prohibition on Herring Fishing) Bye-Law No. 571, 1974 dated 12 September 1974,
Prohibiting the fishing for herring in the Irish Sea and landing of herring at any place in the coast of the Irish Sea during certain periods.
- (d) Control of Fishing for Salmon Order, 1974 (S.I. No. 353 of 1974) dated 5 December 1974,
Limiting the number of salmon fishing licences for fishing engines other than rod and line, for use in private and public fisheries in waters other than fresh water lakes and fresh water portions of rivers and extending the weekly close time for certain private fisheries, and
Revoking the Control for Fishing for Salmon Order 1973 (S.I. No. 330 of 1973).

LOCAL

- (a) Castletownbere Fishery Harbour Centre (Fish Auction Charges) Order, 1974 (S.I. No. 95 of 1974) dated 26 March 1974,
Defining the tolls and charges to be paid to the Minister by persons selling in the auction hall at Castletownbere Fishery Harbour Centre.
- (b) Fishery Harbour Centre (Killybegs) (Amendment) Order, 1974 (S.I. No. 183 of 1974) dated 11 June 1974,
Amending the Fishery Harbour Centre (Killybegs) Order, 1969 (S.I. No. 210 of 1969).
- (c) The Killybegs Pier and Harbour (Amendment) Order, 1974 (S.I. No. 376 of 1974) dated 20 December 1974,
Extending to an additional area the application of rates and charges payable in the Killybegs Fishery Harbour Centre.

- (d) Ballina District Bye-Law No. 566, 1974 dated 16 January 1974, **Prohibiting** the use of gaffs to capture fish in the River Moy and its tributaries.
- (e) Galway District Bye-Law No. 567, 1974 dated 11 March 1974,, **Prohibiting** the taking of salmon or trout of less than 12 inches in length from Loughs Corrib, Mask and Carra, and **Revoking** Galway District Bye-Law No. 494, 1958.
- (f) Letterkenny District Bye-Law No. 569, 1974 dated 21 May 1974, **Amending** Letterkenny District Bye-Law No. 556, 1972 relating to fishing by rod and line in specified areas during certain times.
- (g) Ballyshannon District Bye-Law No. 568 dated 23 May 1974, **Prohibiting** fishing for salmon or trout with any fishing engine other than rod and line in the tidal waters of the River Erne and its tributary, the Abbey River.

FOYLE AREA

Regulations made by the Foyle Fisheries Commission with the approval of the Minister for Agriculture and Fisheries and the Department of Agriculture for Northern Ireland.

- (a) Foyle Area (Close Season for Angling) Regulations, 1974, **Altering** the close seasons for angling for salmon and trout in certain loughs and lakes of the Foyle Area.
- (b) Foyle Area (Weekly Close Time) Regulations, 1974. **Altering** the weekly close time in the waters of the Foyle Area, other than the tidal waters of the River Roe.

APPENDIX No. 23

OUTPUT AND DISPOSAL OF FISH HATCHERY PRODUCE 1973/74

Hatchery	Output (Ova)			Disposal	River System Stocked
	Salmon (,000)	Sea Trout (,000)	Brown Trout (,000)	(,000)	
Parteen ...	724		170	{ 223 Fingerlings 95 Pre smolts 58 Smolts 111 Yearlings and fingerlings	Shannon and tributaries
Carrigadrohid	249			220 { Unfed fry Fingerlings Smolts	Bride, Shournagh and Lee
Fanure ...			840	389 Fingerlings 55 Spring yearlings 57 Autumn yearlings 10 Adults	Various Trust waters in Cos. Longford, Monaghan, Meath, Westmeath, Sligo, Offaly, Cork, Kerry, Clare and angling interests.
Mullingar			1,260	100 Ova 220 Ova 470 Fry 33 Summerlings 244 Fingerlings 65 Spring yearlings 33 Autumn yearlings	E.S.B. Various Trust waters in Cos. Longford, Westmeath, Cavan, Roscommon, Sligo and angling interests.
Screebe	260			70 Ova 95 " 20 " 20 " 10 " 35 " 25 " 20 " 11 Fry	Retained for Screebe E.S.B. Glenreagh Estate, Co. Donegal Ballisodare Crumlin Fishery, Co. Galway Dromore Estate, Kenmare E.S.B. Glenreagh Estate, Co. Donegal Crumlin Fishery, Co. Galway.
Mallow	600			600 Fry	Blackwater and tributaries
Cong ...	106 received from Carrowmore Lake 280			40 Fingerlings { 50 " 20 " 20 " 15 " 18 "	Owenmore Moy Clare B.I.M. Spiddal Cong

APPENDIX No. 23 (contd.)

Hatchery	Output (Ova)			Disposal	River System Stocked
	Salmon (,000)	Sea Trout (,000)	Brown Trout (,000)	(,000)	
Glenties ...	266			91 Ova 10 " 15 " 10 Fry 10 Ova 25 " 30 " 50 " 25 Fry 10 Fry 2 Ova 15 "	Owenea Owenbeg Bonet Ray Swilly Kenmare Rivers Owenmore Nore and Suir Crana Minderry Owenea Dromore Estates
Burrishoole Fishery No. I. (operated by Salmon Research Trust)	83			Reared to Smolts for research purposes.	
Burrishoole Fishery No. II.	73			73	Barrow
Virginia ...	90 61 from Carrow- more Lake		25	70 Fingerlings 15 " 20 Fingerlings 5 Spring yearlings	Boyne System Slaney Boyne Knock Reservoir, Balbriggan.
Carrow- more Lake Incubating Unit	167			106 Ova 61 Ova	To Cong Hatchery for rearing to underyearling stage for restocking the Owenmore system and Spring fish rivers. To Virginia Hatchery for rearing to underyearling stage for restocking the River Slaney and tributaries.

APPENDIX No. 24

SCIENTIFIC AND OTHER PAPERS

1. DEPARTMENTAL

A. IRISH FISHERIES INVESTIGATIONS

a. *Series A* (Freshwater)

No. 14. C. Moriarty. Studies of the eel, *Anguilla anguilla* in Ireland. 3. In the Shannon catchment.

b. *Series B* (Marine)

No. 11. P. Fitzmaurice. Size distribution and food of Thornback Rays (*Raja clavata*) caught on rod and line on the Mayo coast.

No. 12. J. P. Hillis. Diving study on Dublin Bay Prawns (*Nephrops norvegicus*) and their burrows off the East coast of Ireland.

No. 13. ————. Field observations on larvae of Dublin Bay Prawns (*Nephrops norvegicus*) in the western Irish Sea.

No. 14. J. H. Wilson and R. Seed. *Laboratory experiments on pumping and filtration in Mytilus edulis L. using suspensions of colloidal graphite.*

B. FISHERY LEAFLETS

No. 59. Anon. List of Fishery Leaflets Nos. 1 (1938) to 58 (1973)

No. 60. C. Moriarty. Eel Research 1973.

No. 61. D. T. Kennedy, Herring Investigations on the North-West and West coasts 1973/74.

No. 62. J. Molloy. Herring fisheries on the South and South-West coasts, 1973/74.

No. 63. ————. The Clogherhead Herring Fishery, 1971-73.

No. 64. D. Farrell. Inland storage of crawfish and lobsters.

No. 65. K. Bhatnagar. Lobster trap census 1973.

2. OTHER PUBLICATIONS

A. E. J. Went. Some interesting fishes taken from Irish waters in 1973. *Irish Naturalists' Journal* 18, 57-65.

